The Oil and Gas Journal

PRODUCING REFINING MARKETING

VOL. 24. NO. 13. TULSA, OKLAHOMA, AUGUST 20, 1925

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Production Declines 26,241 Barrels

Highest daily average estimated production this year, week ended May 30, 2,347,984 bbls. Lowest January 3, 1,911,730 bbls.

Light Oil Output Increases 133 Bbls., but Most Heavy Crude Fields Show Decline. Smackover off 21,965 Bbls.

By James McIntyre

Highest daily average estimated light oil production this year, week ended January 17, 1,525,220 bbls. Lowest July 18, 1,374,173 bbls.

Production of the United States took a decided drop in the past week due primarily to the falling off in output of the heavy oil area of the Smackover Field in southern Arkansas. Light oil remained about stationary, an increase of only 133 barrels having been reported in the estimates on production. It was the first general production decline since the week ending July 18, at which time the production of light oil began to creep upwards.

In Oklahoma the most interesting wells reported were in the Duncan-Lawton district in the southern end of the State. In Section 12-2s-8w, Stephens County, an 800-barrel well at 1,739 feet was completed, while in Section 30-2n-9w, Comanche County, a well was drilled into a sand at 2,113 feet and started at 40 barrels an hour. This well caused a lot of lease buying nearby at fancy prices, and when a few days later the well dropped off to 20 barrels a day, it left the purchasers wondering whether or not they had made judicious investments. The Garber Field remains in doubt as to its deep sand potentiality, and it will be another week before much definite news of it may be had.

Kansas production increased over 2,000 barrels a day. No sensational wells were reported, but there is a lot of work in pools that have been showing up well of late, and the combined results more than maintain production.

The heavy oil area in Smackover, Arkansas, is declining in production. The Blossom-Lawton sand completions thus far have not been of the kind that could offset the rapid and steady decline of the Graves sand wells.

In the California fields, Rosecrans displaced Inglewood as the center of attraction with six new wells, but California's total production fell off somewhat during the week. Inglewood appears to have passed its peak production days.

In the Rocky Mountain fields, Sunburst, Montana, is the most interesting of all the present day developments, with its increasing production and its attractiveness as a "poor man's field" because of its comparatively shallow depths and its occasional gusher wells. The field is experiencing a healthy boom at present, inspired by recent successes there.

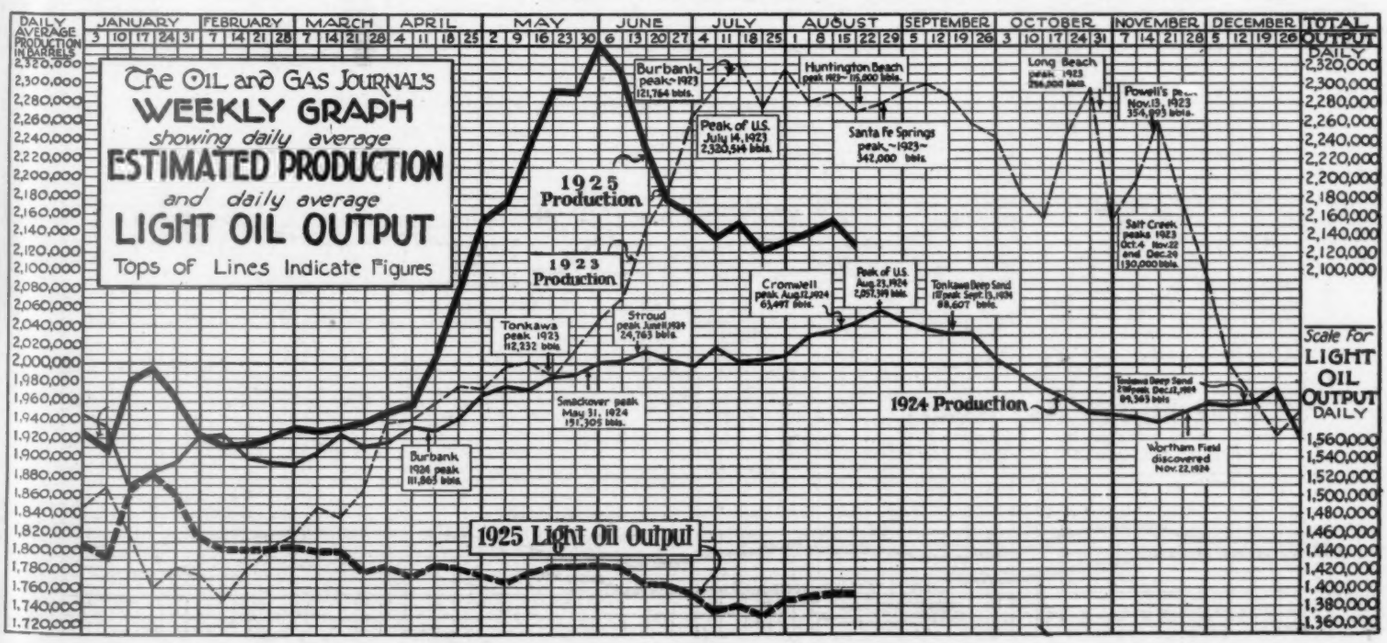
In the ancient Pennsylvania Field, a 350-barrel well in Morris Township, Green County, in the southwestern corner of the State, was a real feature, as it was the largest well drilled in the State in a long time.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for the week ended August 15, and a comparison with the previous week follows:

	Aug. 15		Aug. 8	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	48,860		53,425	
Burbank	54.145		54 310	
Other Osage Fields	32 820		33,000	
Cushing and Shamrock	22,425		22,400	
Bristow and Eastern Bristow	31,955		32,120	
Cromwell	30,055		31,100	
Papoose	15.220		14,830	
Garber-Billings	13,545		11,460	
Braman-Blackwell	22,870		22,255	
Northern Miscellaneous	110,860		111,540	
Southern Fields	61,160		61,100	
Total Oklahoma	443,915		447,540	
North Louisiana	49,909		49,535	
Arkansas—				
El Dorado and Calion	8,905		8,845	
Smackover Light	26,935		27,275	
Smackover Heavy		197,030		218,995
Stephens and Nevada	3,285		3,345	
Total Arkansas	39,125	197,030	39,465	218,995
North Central Texas	167,246		166 988	
Powell	45,100		45,100	
Mexia, Currie, Richland, etc.	22,150		23,150	
Wortham	26,000		27,200	
Kansas	108,700		106 645	
Total Mid-Continent Area	902.145	197,030	905,623	218,995
Gulf Coast		99,893		101,997
Southwest Texas		46,315		45,420
Eastern	107,880		107,350	
Rocky Mountain Area	108,135		103,254	
California—				
Santa Fe Springs	52,500		51,500	
Long Beach	101,000		105,000	
Huntington Beach	43,500		44,000	
Torrance		35,000		34,500
Dominguez	29,000		28,000	
Rosecrans	24,000		23,000	
Inglewood	12,000	97,000	12,300	98,700
Remainder of State	15,300	259,700	15,300	261,700
Total California	277,300	391,700	279,100	394,900
Total United States	1,395,460	734.938	1,395,327	761,312
Grand Total	2,130,398		2,156,639	

Total Decrease, 26,241 Bbls.; Light Oil Increase 133 Bbls.


The OIL and GAS JOURNAL'S
WEEKLY GRAPH
showing daily average
ESTIMATED PRODUCTION
and daily average
LIGHT OIL OUTPUT
Tops of Lines Indicate Figures
1925 Production
1923 Production
1924 Production
1925 Light Oil Output
Burbank peak-1923 121,764 bbls.
Peak of U.S. July 14, 1923 2,323,544 bbls.
Huntington Beach peak 1923-115,000 bbls.
Santa Fe Springs peak,-1923- 342,000 bbls.
Long Beach peak, 1923 334,000 bbls.
Powell's pk. Nov.13, 1923 354,093 bbls.
Salt Creek peaks 1923 Oct.4 Nov.22 and Dec.29 130,000 bbls.
Cromwell peak, Aug.12,1924 63,497 bbls.
Peak of U.S. Aug.23,1924 2,251,199 bbls.
Tonkawa Deep Sand (2)peak Sept.15,1924 69,607 bbls.
Tonkawa peak 1923 112,232 bbls.
Stroud peak June 1,1924 24,763 bbls.
Smackover peak May 31, 1924 191,305 bbls.
Burbank 1924 peak 111,865 bbls.
Wortham Field discovered Nov.22,1924
Scale For LIGHT OIL OUTPUT DAILY
DAILY AVERAGE PRODUCTION IN BARRELS
TOTAL OUTPUT DAILY
JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER

Refined Market Weakness Spreads

Tankwagon and Crude Reductions Cause Rapid Decline in Gasoline Prices. Fuel Oil Slightly Easier. Kerosene Continues Firm

By Neil Williams

Continued slashing of tank wagon prices of gasoline in eastern and southern States, further cuts in export schedules and additional reductions in crude prices together with expectations of a general Mid-Continent crude decline almost demoralized the gasoline market in Oklahoma (Group 3) the past week.

The weakness in the Group 3 market, which the past feew weeks has been confined to gasoline, began to spread to other products when a softer and easier tone became apparent in the fuel oil situation. Kerosene and distillates alone continued comparatively firm.

The weakness of gasoline became so great, especially Monday and Tuesday, that whatever resistance to the slipping there might have been in the past entirely disappeared Tuesday and sellers apparently did not have a ray of hope for a footing on which they might check the downward rush. So rapid were the price declines that on Tuesday it was difficult to determine a market, each succeeding low mark being quickly followed with offerings of distress products at further reduced prices.

As the price-cutting became more pronounced and as the possibilities of a general Mid-Continent crude reduction became more certain in the opinion of some, buyers were more determined than before to limit their purchases to the absolute minimum of necessity, expecting further material reductions in gasoline. The only buying Monday and Tuesday was in small lots and for immediate shipment to fill emergency needs.

As nearly all buyers were besieged with requests from sellers for aid and as they were able to obtain any amount of gasoline almost at their own prices, the entire trade seemed agreed that Monday and Tuesday's market belonged to the buyers with sellers having little to say.

Seemingly unable to offer any resistance to the downward trend of prices, many sellers Tuesday began hoping that a general Mid-Continent crude reduction and a subsequent cut in the tank wagon postings of the Standard Oil Co. of Indiana would be hastened.

Discussing Crude Decline

Although such reductions in all probability would mean further declines in refinery markets, market observers are of the opinion that a period of intense trading will follow with a consequent result of making any refinery declines short lived and putting prices on an upward trend again.

These observers believe that the buyers are holding off only until they believe the absolute bottom is reached in gasoline prices, which under present circumstances probably will pot come until after the crude and tank wagon cuts. If this theory is correct, the longer the time until these cuts are made, the greater the delay in substantial and helpful buying there will be.

In other words, more and more of the refiners are coming to the belief that no matter how harmful to the market the crude and tank wagon reductions would be, it would be better in the long run to get them over with as soon as possible. Barring other possible unforeseen factors, if the crude and tank wagon reductions are far distant, which is probable, the market observers point out there is no telling to what extent gasoline prices now will decline if buying is withheld until that time.

However, with gasoline prices at the present level and possibly going lower, there is another angle which enters the picture. Most refiners, if reports are true, already have reached that point where they are barely able to break even on the cost of production even if they are not actually losing money. Under these circumstances refiners cannot operate long and as a result will be forced to reduce their runs very materially in the near future.

Up until the past week, runs had not been reduced enough to cause any material decrease in the production of gasoline but with large losses facing refiners with lower gasoline prices, a decrease in production, sufficient to affect the market, will be forced on many refiners.

Bearish Tactics

While overproduction of gasoline lies at the bottom of the weakness in gasoline, refiners are blaming bearish tactics of brokers for the present rapid decline in prices. They point out that the brokers have been able to get hold of plenty of gasoline considerably under prevailing market prices from various sources and now are selling short, continually underbidding refiners.

The strength and controlling power of the jobbers have become more and more evident under present market conditions. Earlier in the summer, when the hand to mouth buying became apparent for the first time, nearly every market student was free in predictions that this policy of jobbers could not be kept up and that some time during the summer they would be forced to buy extensively to meet heavy consumption demands.

However, although at times a few jobbers have bought freely, generally they have maintained this policy of buying short and seemingly have passed the peak of consumption period in victory. Now, with the success of this policy, market students point out that refiners are faced with a new problem, the solution of which may cause them to work a new policy for handling their gasoline production in the future.

Gasoline and Naphtha

Although gasoline prices have been slipping for nearly two months, declines the past week, especially Monday and Tuesday, were the most marked of any week since it began. In some cases prices fell off 1 cent a gallon. In fact, the declines were so rapid it was difficult to determine the true market. Tuesday actual selling prices of U. S. Motor (58-60, 437) gasoline seemed to range from 10¼ to 11 cents, although sales at the latter price were few, leaving the bulk of the offerings around 10¼ to 10½ cents. Declines in 56-58, 450 gasoline were almost as marked with sellers Tuesday offering any quantities of the product at 9¾ to 10 cents. Although sales of 50-52, 450

(Continued on Page 154)

REFINED MARKET BAROMETER

Price reductions affecting nearly all products featured refined markets of nearly all parts of the United States the past week. Continued slashing of tank wagon and export postings and additional declines in crude oil, with others expected, caused a feeling of uncertainty and lack of confidence which sellers were unable to combat. Only in California prices remained fairly steady, and even there a weak undertone was apparent. The weakness of fuel oil along the Atlantic Seaboard spread to the Mid-Continent, where a slightly softer and easier tone was felt because of an expected general crude reduction. Kerosene continued fairly firm in Mid-Continent areas and Chicago districts although it was weak in other sections of the country. Natural gasolines continued to weaken except in California, where they were strong. Lubricants generally moved in satisfactory volumes. Distillate markets continued sluggish in the East but remained firm in other sections. Wax was unchanged.

Mid-Continent—Continued reductions in tank wagon and export postings, crude price cuts and expectations of others caused almost demoralization of gasoline markets in the Mid-Continent, particularly Oklahoma and Texas the past week. Fuel oil, which has been strong for a number of weeks, but a slightly easier tone. Kerosene and distillates alone showed signs of strength. Natural gasolines continued to slip. Lubricants slightly easier. Wax unchanged.

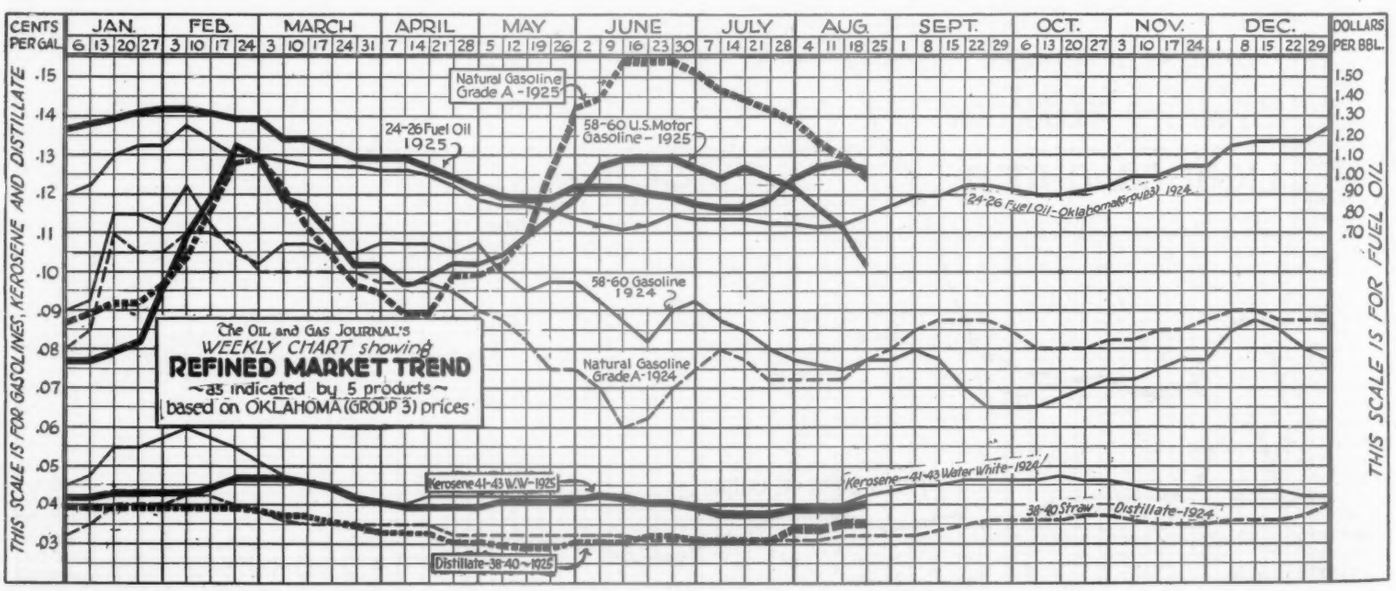
Atlantic Seaboard—Price reductions affecting gasoline, fuel oil, gas oil and lubricants featured the refined oil trade on the Atlantic Seaboard the past week. Fuel and gas oils soft. Lubricants steady. Wax unchanged.

Pennsylvania—Wax was the only product which showed strength in Pennsylvania refined products the past week. Movement of all products slow, especially gasoline and kerosene.

Chicago—Material reductions, hastened by tank wagon and crude price declines, featured Chicago refined markets. Nearly all products free. Fuel and gas oil easier.

Gulf Coast—Gulf Coast refined markets little changed. Lubricants steady.

California—Price reductions in other parts of the country weakened California gasoline markets. Natural gasolines continued strong. Lubricants moved in satisfactory volumes. Fuel oil and distillates sluggish. Kerosene uncertain.



Gasoline Supply More Than Demand

Government Reports Show Present Market Weakness Due to Overproduction. Situation Better Than in 1924 and 1923

By C. O. Willson

Many in all branches of the industry have been somewhat mystified recently as to the causes back of the weakness in the gasoline market reflected in a gradual slump of tank car prices for several weeks which in turn is held responsible for the general tank wagon reductions announced during the past ten days. In the midst of the greatest gasoline consuming month of the year following a demand which has averaged from 26 to 28 per cent greater than the same period last year and with no sensationally large new fields in the crude production end, the weakness to many has been unexplainable.

So far as the market trend is concerned at least the situation is not without precedent because the three preceding years were featured with lowering prices during the season of maximum consumption, due largely to the fact that refiners, backed with too much crude, accumulated large quantities of gasoline during the winter and spring months which the demand of the summer and fall did not readily absorb.

Although there was considerable uncertainty in the motor fuel market the first half of the year, price trends generally were more encouraging than half year periods of the previous two years and it was hoped that by the middle of the year the market would be definitely established on a firm basis. It is now apparent, however, that all conditions which enter into the making of a gasoline market were not accurately gauged and unless immediate action is taken, the industry faces another adjustment period of lower prices affecting all its markets.

A study of the Bureau of Mines data for the first six months of this year, when considered with reports for previous years, shows rather clearly the underlying causes which brought a break in the gasoline market. At the same time it is apparent that unless the July and August reports—not available at this time—show a much larger increase in gasoline production than in June, the situation at this time is more encouraging than at the same date in 1924 and 1923 with a quicker recovery certain provided the obvious remedies are utilized immediately.

The main factors in the gasoline situation are summarized in the accompanying table based on the Bureau of Mines report for the first six months of this year, with some comparisons based on operations of previous years. The table takes into consideration the changes recently announced by the bureau covering California operations. These changes have made useless the data covering gasoline shipments and stocks in California and for that reason they are not included in the table. Since these changes are also taken into consideration in total figures for the United States, percentages in other areas are also affected, a regretable situation which detracts from the value of the reports. Keeping in mind the corrections already announced it is still possible to secure a fairly accurate idea of the present statistical situation in comparison with previous years outside of the west coast.

FACTORS IN GASOLINE SITUATION

The increased recovery of gasoline from crude the accumulation of gasoline stocks in coastal territories and the failure of many refiners to adjust their production to a slackened demand in their areas are the principal factors in the present weakness of the motor fuel market.

Each barrel of crude run to stills the first six months of this year accounted for 14,658 gallons of gasoline. Last year the same barrel yielded 13,901 gallons and in 1923, 12,978 gallons. This increased recovery of gasoline over last year accounted for 271,254,884 gallons of the gasoline in storage on July 1 and also supplied 27.2 per cent of the increased demand.

Although gasoline stocks on January 1 of this year were larger than necessary, refiners had added 396,290,555 gallons to this storage on July 1. The worst feature of this situation was reflected in the fact that only 22,000,000 gallons were taken from storage in June.

Interior refiners at the expense of coastal refiners maintained a relatively healthy relationship between gasoline output and the shipments the first six months of this year. The siituation is now apparently reversed and the interior refiners have failed to reduce their output in line with a lessened demand.

Increased Recovery

Many market students believe that the troubles of the gasoline manufacturers are largely due to the fact that they fail to take into consideration the definite trend toward increased recovery of gasoline from crude. Individual refiners often congratulate themselves that in their own operations, due to more efficient skimming and cracking plants and a wider use of natural gasoline, they are constantly able to increase the amount of gasoline for each barrel of crude run through their stills. Often times they apparently overlook the fact that their neighbor refiners are probably obtaining the same or better results in their operations, which applied to the whole industry, has brought a constantly changing situation which merits the consideration of every refiner when he attempts to gauge the gasoline requirements over a period of several months.

Although the refining industry so far this year, as a whole, has been operating on crude of relatively lower gravity than in 1924 or 1923, the plant operators in most areas have been able to increase their gasoline yields. As shown in the accompanying table the recovery the first half of this year was 34.9 per cent, an increase of 1.8 per cent over the 1924 recovery and 4 per cent greater than in 1923. These percentages include the natural gasoline used at refineries.

This meant that the first six months of this year 271,254,884 gallons, or approximately 5 per cent of the 5,202,381,919 gallons of gasoline produced can be accounted for as a development of increased recovery. The importance of this increased recovery is more clearly apparent when it is compared with the total increase in consumption. Shipments from refiners the first half of this year were 996,406,350 gallons greater than the same period last year. Considering these shipments as the measure of increased demand, it is apparent that the greater gasoline recovery took care of 27.2 per cent of the increase in consumption. In other words if a refiner had accurately estimated that the demand for gasoline the first half of this year would be 26.2 per cent greater than the same period last year, he should at the same time take into consideration that 27.2 per cent of this demand would be provided for through increased recovery.

Lower in Louisiana

As shown in the table all refining groups increased their gasoline recovery except Louisiana and Arkansas and the the Rocky Mountains. The failure of the Rocky Mountain area to increase its gasoline recovery came as surprise. Up to May the trend toward greater recovery has been very apparent in that area. In May, for some reason, there was a large drop in percentage. Later reports will probably correct this condition. In Louisiana and Arkansas the decline in recovery is explained as due to the fact that refiners are operating with crude of much lower gravity, substantial quantities of it coming from the low gravity fields of Arkansas. Despite this heavy crude gasoline recovery only declined 1.9 per cent. Reflecting the increased efficiency of both small and large refineries it is worthy of note that Oklahoma and Kansas plants increased their recovery 2.3 per cent and Texas refiners 3.9 per cent.

Production and Shipments

Turing to production and shipment figures several conclusions can be drawn in connection with the present weakness in the gasoline market. As shown in the ninth column of the table all refining groups with the exception of the East Coast and Louisiana and Arkansas maintained what would be generally termed a healthy relationship between shipments and production. The latter, even under favorable conditions, will usually be greater than shipments the first half of the year and provided the spread between the two is not too great there is no occasion for alarm.

For reasons previously explained the California data on shipments and stocks are not given. If the additions to stocks had not been made this area would also have reflected an undesirable situation between supply and demand.

The interior group of refiners kept their production moving to the trade despite large increases in output. Oklahoma-Kansas refiners, for instance, increased their gasoline output 34.8 per cent the first half of the year over the same period last year but at the same time were able to maintain a 96.1 per cent relationship between shipments and production. Texas refiners increased their output 40.7 per cent with a relationship between demand and supply of 95.6 per cent. In the Mid-Continent production increased 36.5 per cent, 97.4 per cent of which was moved to the trade.

In the East Coast area, although gasoline production increased only .26 per cent over last year with an actual decrease in crude runs to stills, refineries were not able to keep their shipments in line with the production and 150,510,529 gallons were added to stocks. Louisiana and Arkansas refiners increased their gasoline output 21.9 per cent and due to a 71.3 per cent relationship between shipments and production added 88,423,945 gallons to storage. As shown in the table practically all of the increase was in the Gulf Coast division of Louisiana, the north Lousiana and Arkansas areas which are part of the Mid-Continent showing a more normal situation. In Texas also, all of the additions to stocks the first half of the year were in the Gulf Coast region, the North and Central group actually shipping more gasoline than they produced.

Blame Coastal Refiners

Based on this information some have been inclined to place the blame for the present weakness on the coastal refiners, these concerns in most cases owning large plants. It should be kept in mind, however, that one of the reasons that refiners in other areas were able to keep their output moving, was due to the fact that certain large companies having their own refineries purchased large quantities of gasoline from them rather than shipping it from their own plants. This is especially true in the Mid-Continent area.

It is estimated, for instance, that the Standard Oil Co. of New Jersey so far this year has purchased approximately 75,000,000 gallons of gasoline from Mid-Continent refiners for export and coastwise movement. This company either directly or through subsidiary interests

(Continued on Page 141)

SUMMARY OF REFINERY OPERATIONS BASED ON BUREAU OF MINES REPORT FOR FIRST SIX MONTHS OF 1925

	Crude Runs to Stills			Gasoline Production			Gasoline Shipments			Pctg. Gaso. Recov.		Gasoline Stocks		
	1st 6 Mos. 1925 Barrels	Increase Over 1st 6 Mos. 1924	Perc'tage of Increase	1st 6 Mos. 1925 Gallons	Increase Over 1st 6 Mos. 1924	Perc'tage of Increase	1st 6 Mos. 1925 Gallons	Excess Prod. Over Shipmts. 1st 6 Mos. 1925	Perc'tage Relation Shipmts. to Prod'n	From Crude 6 Mos. 1925	From Crude All of 1924	From Crude All of 1923	Total June 30, 1925 Gallons	Increase Over June 30, 1924	Perc'tage of Increase
East Coast	66,088,971	*2,006,165	*2.9	$64,286,122	2,253,434	.26	712,775,593	150,510,529	82.6	31.1	29.5	28.5	354,948,348	5,519,797	1.6
Pennsylvania	12,351,826	1,492,886	13.7	200,944,851	29,986,986	17.5	193,178,441	7,766,410	96.1	38.7	37.9	35.2	34,438,579	*3,754,296	*20.3
Indiana-Illinois	33,210,251	5,085,891	18.1	707,743,873	132,259,650	22.9	669,637,756	38,106,117	94.6	50.7	49.6	47.2	197,264,683	*16,594,665	*7.3
Oklahoma-Kansas	47,632,932	9,627,377	24.8	957,859,382	247,643,932	34.8	921,032,645	36,836,737	96.1	47.8	45.4	42.5	157,878,838	*58,038,462	*27.3
Texas	70,252,094	12,071,833	20.7	1,091,118,203	315,503,587	40.7	1,043,039,346	48,078,857	95.6	36.9	33.0	28.1	202,493,812	37,330,010	21.9
Louisiana-Arkansas	31,447,338	8,525,956	37.2	308,336,518	55,436,065	21.9	219,912,573	88,423,945	71.3	23.3	25.2	25.3	174,399,399	32,988,667	23.3
Rocky Mountains	11,664,947	*1,879,958	*13.8	276,072,343	*57,129,723	*16.1	249,566,597	26,505,746	90.4	56.4	56.9	55.4	142,342,215	*44,376,876	*23.9
California	82,057,952	7,892,724	10.6	796,020,627	83,075,141	11.6	.....	.....	....	23.1	21.4	20.8	.....	.....	....
United States	354,706,311	40,811,544	13.0	5,202,381,919	809,027,072	18.4	4,806,091,364	396,290,555	92.3	34.9	33.1	30.9	1,695,216,272	96,368,053	6
Texas Gulf Coast	51,470,052	8,100,342	18.7	804,363,059	232,896,231	40.8	755,759,042	48,604,017	93.9	37.2	32.4	26.9	184,997,164	40,413,098	27.9
Louisiana Gulf Coast	21,983,623	4,646,944	26.8	243,290,785	37,758,656	17.2	154,812,168	88,478,617	63.6	26.3	27.1	26.5	169,546,937	35,673,900	26.6
†Mid-Continent	75,873,689	17,478,880	29.9	1,309,660,259	959,731,562	36.5	1,309,660,259	36,256,907	97.4	41.1	40.1	38.5	180,227,958	*76,257,956	*29.7

*Decrease.
†Includes Oklahoma, Kansas, North and Central Texas, Arkansas and North Louisiana.

Oil Leasing in the Rocky Mountains

Description of Proper Procedures Clears Up Wrong Impressions as to the Difficulties of Obtaining Lands

By Frank B. Taylor

One of the main troubles encountered by the oil operator from the East when he enters the Rocky Mountain region and some of the other oil regions of the West, is the apparent maze of red tape that he must unravel to obtain title to operate for oil or gas on public lands. Some visitors from eastern fields have given up in disgust after a short survey of the situation, yet the whole matter is comparatively simple if the operator will give it a ltitle study.

There are three classes of land in the West as far as the oil man is concerned, outside of privately owned property These are Government-owned lands, which is the ordinary wild land, open to homestead, mineral development and the like; ther the State-owned land, subject to lease direct from the State, and lands owned by the Indians and under Government regulation through the Indian agent.

Where the oil man considers he has found good prospecting territory on private lands, the procedure is the same as in the eastern oil fields. He simply takes a lease for oil and gas on the ground in the usual way and the common form in the Rocky Mountain region is the 88 lease that has become standardized through custom. The rental and other clauses are optional between the contracting parties.

It is well to inquire closely into homestead titles regarding the matter of the mineral claim of the homestead title, for of late years, the Government has reserved the mineral on all homesteads unless the homesteader makes a claim for the the mineral also, and even then, the homesteader can take up 640 acres of surface but he can only take up 320 acres of that amount of the mineral that may or may not underlie his homestead. A desert claim or a grazing claim does not carry any right to the mineral content unless the claimant makes a special entry for same.

The Use of Scrip

One other means of obtaining title to private ownership of public lands is practiced out here. This is the use of scrip. In the early days, when the Union Pacific Railroad was built, the Government subsidized the building of the railroad by the issuance of scrip. This scrip entitled the holder to select any Government land he desired, not already applied for or withdrawn for other purposes, and on presentation of scrip, he was given patent for the tract.

This scrip was used in part payment to the workmen who helped build the Union Pacific and on other Government subsidized work and in the early days it was not considered of much value. In fact it is commonly said that on pay days the workers traded their scrip over the bars at the rate of a drink of whiskey for each scrip. Today this scrip has become a large factor in the purchase of Government lands. An instance in Colorado is illustrative of its present value.

In a part of Colorado where a rich valley had become settled, a surveyor discovered a mistake in the old Government survey that contained about 100 acres lying between two large ranches and bordering on the edge of a city. The appraisal value of the adjacent lands was about $300 per acre. The surveyor knew that he would be subjected to all manner of trouble on the part of the owners nearby and he therefore bought some old scrip and with it he made claim to the tract and was given a patent by the Government after his claim was investigated. The surveyor paid in the neighborhood of $40 per acre for this scrip and thus became the owner of a tract worth about $30,000 for $4,000. Many of the older people living in this region today recall when scrip was hardly worth the paper it was printed on. Scrip always carries title to both the mineral and the surface and in fact, is the same class of title as the general run of land holdings in the East.

The Old Mineral Claims

The open Government land in the West was first subject to mineral claims before the homesteader came. This was because of the precious metal mining that brought people to the mountainous regions. The gold and silver was found in veins or else in the gravel of the creek beds. Two classifications were therefore made regarding mineral claims, the lode and placer. A lode claim was one where the mineral to be mined was found in situ as a quartz vein in the rock, a placer claim was one covering a certain area in an old stream bed where the gravel and detrius yielded values which had been washed down from the surrounding hills by erosion, the mother lodes having been eroded and the values deposited in the eroded wash. The early miners came along, found these eroded deposits rich in nuggets, fought over them and some made riches.

First Oil Regulations

Later, the oil man came. He also wanted to search for his mineral, but he found a dearth of rules to work by and some rather wonderful attempts at obtaining titles were made by the early pioneers in the oil regions in their search for the petroleum. Then the Government recognized the need of the oil man and a set of regulations were drawn to apply. Unfortunately the oil man was not consulted when these regulations were made and the result was a bastard progeny of the gold mining placer claim laws that was totally unfit for the purpose intended.

When a prospector for gold found a claim to his liking, he had to show a discovery of gold on it before he could take title, therefore the first oil regulations had a provision that the oil man must find oil before he could apply for a claim. In other words, the oil operator would have to go out and drill a well and bring it into production before he would be recognized as a claimant to the ground. Also he could lay claim to only one quarter section, 160 acres.

Any oil operator with ordinay sense would steer clear of such a proposition on the face of it. He would know that if he drilled in a wildcat well in a virgin field, that he would have thousands of claimants to fight off the moment his well flowed oil. However the oil men looked into the matter closely through their lawyers and found several loopholes that enabled them to operate under the regulations of the Oil Placer Claim Act.

A Way Out of a Difficulty

In the West, and especially so in the Rocky Mountain region, there are many strata of shale. Sometimes this shale is so impregnated with oil that it will burn just as it comes from hillside. This rich shale is the oil shale that has been promoted so much. In other shales, there is an oil content, but it often is so small a percentage that its presence can be found only by a chemical analysis.

These shales are common to practically every part of the Rocky Mountain region and the early operators got around the discovery clause of the oil placer claim laws by simply going out and sampling some of this oil shale and thereby discovering oil. True, the discovery would never make a commercial production even in the wildest stretch of imagination, but still it constituted a discovery of oil and filled the letter of the law.

In order to get around the matter of taking up only 160 acres, for no oil operator would consider drilling a wildcat on so small a piece of land, the oil man usually formed a company or syndicate and with seven others, he was able to take up any amount of land he wished by simply making a discovery of oil on each claim and going from one section to another until he had secured as much land as he considered covered the structure. He and his companions then filed their claims and were given the right to mine for and work their claims for petroleum.

"Working" the Claim

Now the oil operator could go ahead and operate, but he did not have anything but a claim. The regulations were that he must do so much work yearly on this land, that he must spend so much money on improvements and that he must comply with other minor rules that applied forcibly to gold mining but had only a retarding effect on oil development. In many of the older fields of the Rocky Mountain region today, the traveler sees graded roads ambling off through the sage brush, which if followed, end against a blank wall of a butte or drop into some dry wash. Also he will discern many holes like cellars and scattered over the land in the most promiscious manner. The roads were made by the oil companies or operators in order to spend money to comply with the claim regulations and were never intended to be made use of as a means of transportation. The pits or cellars were dug for the same purpose, simply that the operators could make affidavit that certain sums of money had been spent on improvements.

After the operator had worked his claim, or a group of operators had worked their holdings for five years, they then could show that they had spent so much on the holdings and obtain a patent to the land. One odd thing about the whole claim law was that there was no stipulation that the claimant should produce oil commercially. So long as he did a certain amount of work and made a certain amount of expenditure relating to the claim, he was entitled to a patent at the end of five years, whether he had drilled a well or not.

Leasing Bill of 1920

This was all changed by the Leasing Bill passed by Congress in February, 1920. Upon the passage of the Leasing Bill, the Oil Placer Claim law was thrown in the wastebasket, those operators who were still holding claims were given the option of either going on to a patent under the old placer regulations or exchanging their claim holdings for a permit under the new leasing law. Most of the holders of claims preferred to change to the new law.

Under the new law, the oil operator finds an area that he wishes to prospect and applies at the nearest Government Land Office for a permit. This is sent to Washington for examination and

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NEW POOL NEAR LAWTON, OKLA. HAD FINE START THEN A SETBACK

By C. D. Lockwood

The high prices paid for acreage during the past week around Harry Hanbury's new Comanche County producer, northwest of Duncan in southern Oklahoma, are typical examples of the hazardous conditions that surround the lease buyer when a new field is in sight.

Starting off at the rate of 40 bbls. an hour from a depth of 2,013 feet, Hanbury's well, which is located about the center of the SW SE NE of Section 30-2n-9w, gave every indication of making an excellent producer and opening a new field of considerable importance. The 77 feet of open hole caved badly, however, and after flowing for a short time, production stopped and preparations were made to clean out the hole.

When this was done, however, the original rate of flow was not resumed, the output amounting to only about 20 bbls. in 30 hours Sunday and Monday. It was also reported that the hole was deepened 5 feet without increasing the production.

A couple of weeks ago this well found small production in a 4-foot sand topped at 1,999 feet, but after pumping 80 bbls. of 30 gravity crude in 15 hours, Hanbury decided to go on down with it. The drill then passed through 7 feet of blue gumbo, 3 feet of lime and went into the pay formation which started so auspiciously. The gravity of this oil tests 39.5 degrees Baume.

The 8-inch casing was set at 1,937 feet, and the fact that the 200 bbls. of production which the well made according to the latest gauge slopped out into the tank through the 8-inch hole, leads to the conclusion that this well may make make a good pumper the way it stands and may be on the edge of the field.

Wild Scramble for Acreage

In the meantime, several companies went wild and some good currency changed hands rapidly. The Magnolia Petroleum Co. purchased the north half of the northeast of Section 30-2n-9w, less an acre in the northwest corner on which a rural school is located, for $40,000; Cochrane and others, of Wichita Falls, bought the east half of the southwest of the northeast for $900 an acre; the Carter Oil Co. paid $300 an acre for the northwest quarter of that section, and also purchased the east half of the southeast quarter for an unnamed consideration. The same company likewise purchased the west half of the northwest of Section 29, making the Carter Oil Co. the heaviest leaseholder in that neighborhood, considering the 240 acres already owned in the north half of Section 31.

In Section 19, a Mr. May of Enid paid $200 an acre for the south half of the northwest quarter, and the Ellis Drilling Co., of Duncan, bought the northeast quarter of the northwest quarter for $125 an acre.

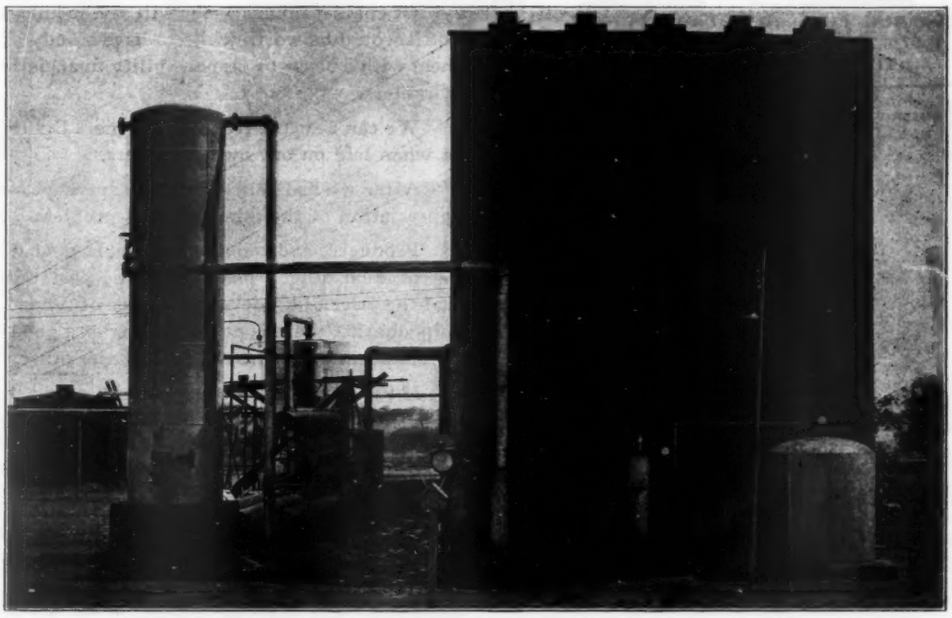
These deals were all made Friday and Saturday morning. At the time the writer visited the well, Saturday noon, Harry Hanbury had several other deals under consideration, and it is probable that some additional sales have been made, although the acreage is rather tightly held.

On a Strictly Cash Basis

A peculiar feature of the lease buying around the Hanbury well was the strict-

(Continued on Page 154)

NEWTON EQUIPMENT



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MEMBER AUDIT BUREAU OF CIRCULATIONS

LET THEM TRY IT

A committee of marketers is considering a proposal for the financing and building of a refinery of their own. The refining companies may well wish that the marketers will go through with it. It would be an object lesson that would do the whole industry, but particularly the distributors, a lot of good.

The Oil and Gas Journal has long advocated the solidarity of the oil business, the interdependence of producers, refiners and distributors. Producers and refiners who formerly regarded each other as competitors, because the one sought the best price for what they had to sell and the other sought the lowest figure at which it could be bought, have come to realize that their much greater interest, the prosperity of the whole industry, is mutual.

They have seen "distress" gasoline forcing down prices and demoralizing the entire business, just as this year a surplus of gasoline is reacting against both the refinery and crude markets.

Many marketers, however, have refused to see this light. They have been told that their exclusive interest is personal and that they need not concern themselves about either producers or refiners.

As if any selling organization in any business need not care whether the producers of the raw material or the manufacturers of the finished product were able to keep in business or not!

It is difficult in this day of universal education in economics and business integration to understand how that ancient sophistry can have survived or that business men can now be found to believe it.

Perhaps what is needed is just such a demonstration as the operation of a refinery by a marketers' association would furnish.

It is safe to assume that the marketers would not be long in the refining business until they entirely changed their views as to the relationship between the manufacturing and marketing branches of the oil industry.

Presumably they now think the marketers have all the troubles in the business. They would soon discover that the refiners also have theirs.

They would learn that there is a great deal more to the refining business than marking up and down prices to marketers. They would find that these prices reached back to what was paid for the raw material, the percentage of recovery, the products obtained, the prices gained for each product and the imperative necessity of getting a return on the investment that would enable the refinery to continue in business.

Of course, any marketer will say he knows all these factors exist but it would be worth while to have a body of marketers experience them with a sense of responsibility financially as refiners, as well as marketers.

We can bear the troubles of others lightly but they may stagger us when laid on our own shoulders.

After we had felt the burden, perhaps, we might have a better appreciation of the other fellow's problems.

Producers and refiners have, indeed, come to better understanding of each other's position in the past three years. They know that the price of crude and the price of refined have a direct relationship and that there is no such thing as a good market for one branch of the business at the expense of the other.

If the marketing branch can be brought to a like realization that it cannot prosper at the expense of either the producing or refining branches we shall be near the end of the troubles of the industry, most of which originate within itself.

Nothing is so likely to hasten that realization by the marketers as a practical experience in trying to operate a refinery under existing conditions.

Yet it is possible that on closer study of the proposition the committee may consider discretion the better part of valor and report against it. There are many obstacles that may well deter the most adventurous.

Aside from the technical and financial problems of operating the proposed refinery there would be a difficulty in satisfying the cooperative owners in their capacity of buyers of its products.

Times arise, for instance, when deliveries are beyond control. Imagine, in such an event, the dilemma presented to the management to satisfy all the members and the resultant disruptive effects of complaints of discrimination, no matter how unjust.

There is also the admitted fact of the present surplus of refining capacity without another being added. In what way could even the transfer of the management of an existing plant to a committee of marketers affect this overproduction which is so large a factor in the present disturbance of the market?

Of the 584 refineries already in the United States there are only 385 being operated.

The Oil and Gas Journal knows that several of these may be purchased at a very reasonable cost if the committee of marketers is determined to embark on this hazardous experiment.

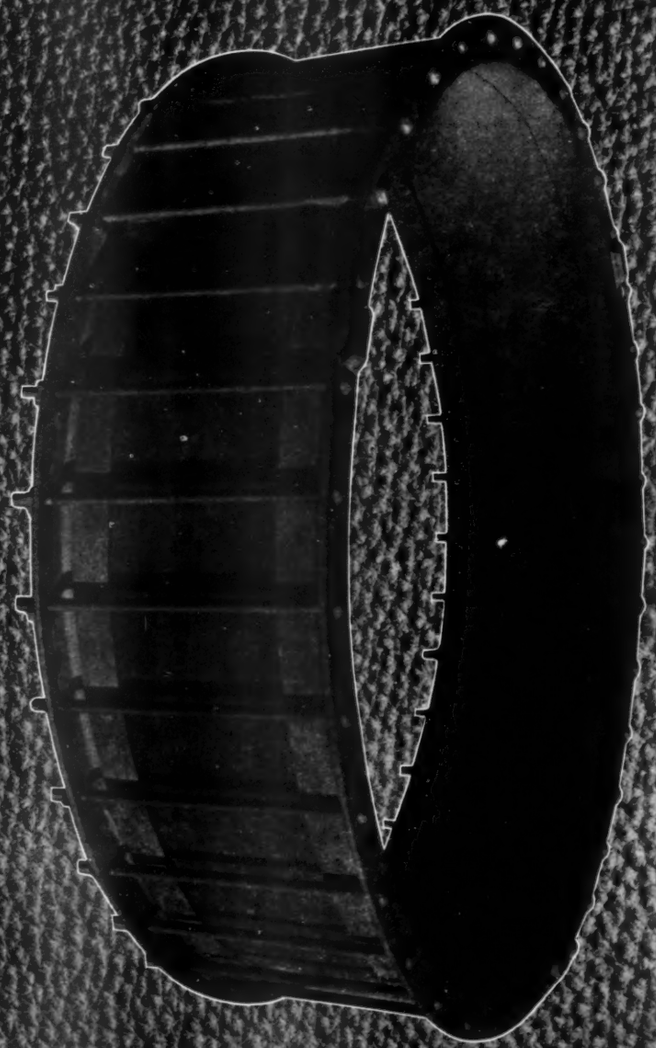
At the same time it is right to remember that there is no industry today where there is continually in progress such rapid and radical changes as in the oil refining industry.

If the enterprise is undertaken it will be essential that an experienced refinery man be placed in charge of it. It used to be said that the refining industry was mismanaged, but the day for that accusation is gone.

There has been constant concentration in economies of management and operation, in securing greater recovery, in conservation of effort and material, so that today the refining industry is the equal of any in efficiency and in a year or two, because of the intensive study now being devoted to its problems, will probably be the most efficient and effective of all.

This is the industry in which the marketers are considering competition. For the sake of better understanding and peace in the oil business it may be hoped they will make the attempt but it is not one to be undertaken lightly or without a thorough understanding of the difficulties to be encountered.

DRESSER



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Colorful Career of Waite Phillips

Sale of His Company to Blair & Co. and His Retirement Prompts Telling of the Story of His Active Business Life

By J. L. Dwyer

The entire capital stock of the Waite Phillips Co. of Tulsa, Okla., was purchaser last week by Blair & Co., bankers of New York. While neither of the interested parties would issue a formal statement about the details of the transaction it is reported from unquestionable sources that the price paid by Blair & Co. for the stock is $25,000,000, and that a first payment of $2,000,000 has been made to close the deal.

The fact that Blair & Co. have acted at various times as fiscal agents for the Standard Oil Co. of Indiana, influences the opinion among some oil men that the Phillips purchase was made by Blair & Co. for that concern, and it is considered likely by some that the properties of the Phillips Co. may be transferred to the Dixie Oil Co., as that subsidiary of the Indiana company is unusually active in the region where the Phillips properties are located. On the other hand some well informed oil men have thought it likely that the Waite Phillips deal was made by Blair & Co. for the Pan-American Eastern, another Standard of Indiana offspring, but the majority favor the Dixie theory.

Others Sought to Buy It

The consummation of this sale follows several attempts by various interests to purchase the Waite Phillips Co. The first news of any negotiations came during last May when a party of officials of the Mid-Kansas Oil & Gas Co., a subsidiary of the Ohio Oil Co., inspected the Phillips properties. There was too great a divergence of opinion as to the value of the property and the deal never passed the preliminary stage. Upon the failure of the Mid-Kansas company to make the purchase, the Independent Oil & Gas Co. attempted to buy the Waite Phillips Co. but after considerable negotiations this deal fell through.

The Waite Phillips Co. was formed in Tulsa, in 1921 and has an authorized capital of 120,000 shares of common stock with a par value of $100. Almost all of the stock is issued, and the only stockholder other than Waite Phillips are employes of the company. R. B. Pringle, vice president, is probably the next largest shareholder in the company.

The Waite Phillips Co. was started as a producing company and has gradually expanded until today it possesses a complete system for the producing, transporting, refining and marketing of petroleum and its products. It has one of the most efficient and compact organizations in the oil business.

The producing leases operated by it are models that might well be copied by any company. Its refineries embody the latest methods of converting the crude oil into the finished products that find their market in the demand for lubricants and motor transport fuel. Their filling stations artistically finished in the company colors are pleasing additions to the landscapes they adorn.

200,000 Acres of Leases

Although the Waite Phillips Co. owns slightly better than 200,000 acres of non-producing leases, these leases have been purchased carefully and conservatively and through the activities of a well organized land department, they represent an investment as judiciously expended as any company in the field.

The Waite Phillips Co. operates 67 bulk stations and 86 filling stations. It has a refinery at Okmulgee with a daily capacity of 6,000 bbls. and is running at capacity. It also has a refinery at Wichita, Kansas, which has a daily capacity of 5,000 bbls. This is also running full blast. Its crude oil storage as of August 1, was 192,333 bbls. with available storage room for 178,429 bbls. additional.

A list of the Waite Phillips acreage follows:

State—	Producing Acres	Non-prod. Acres	Total Acres
Kansas	1,642	63,248	64,890
Oklahoma	4,509	73,599	77,108
Texas	1,000	65,859	66,859
Total	7,151	201,706	208,857

A list of the company's approximate daily production by fields is given below:

Oklahoma

Field—	Barrels
Morris & Bald Hill	13
Bird Creek	7
Lyons Pool	108
Tiger Flats	132
Youngstown, Beggs and Phillipsville	875
Mounds	140
Okemah	45
Bristow	1,100
Cromwell	700
Depew	150
Total	3,280

Texas

Archer County	1,600

Kansas

Half interest in the Rainbow Bend Pool producing 11,737 bbls.	5,868
Total daily production	10,748

The company has 268 producing wells and is drilling 71 wells.

Waite Phillips, head of the company that bears his name, is on his ranch in New Mexico, and has announced no plans for the future. It is believed that he will take a long rest and reenter the oil business, as in the opinion of his intimates he has been engaged in the oil business too long to attempt any other form of industry.

A Colorful Career

The passing of Waite Phillips even temporarily, ends a chapter of one of the most interesting careers the oil business has ever witnessed. Contrary to a popular fallacy, he brought money with him when he came to Oklahoma to enter the oil business 18 years ago. He has seen periods of adversity, but Waite Phillips was never "broke" as many are prone to allege. His career is not of the sensational "Horatio Alger" variety, but marks the slow, painful, methodical success of a life spent in various phases of the petroleum industry. For him, indeed, like many others there was no short cut to success and time and again failure greeted his efforts. In meeting these failures he proved his genius, and he attacked trouble tirelessly, fearlessly, intelligently, and critically, and this is science of the highest order.

A Capable Executive

A capable executive, his company has been noted for its policy of paying the best salaries to all employes and demanding the highest standards and untiring efforts at all times. His attitude on this last has been sometimes classified as "hard boiled," but if he has been an exacting boss, he has been a liberal one, and at the contemplated sale of the stock, namely about $250 a share, there are many of the faithful employes who have weathered the petroliferous storm with him who will be substantially rewarded for their services.

Waite Phillips was born at Gravity, Iowa, 43 years ago and came to Oklahoma immediately after his marriage in Iowa. He located at Bartlesville in 1907, and became associated with his brothers, Frank and L. E. Phillips. They operated in the Bartlesville fields under the name of Phillips Brothers. They also owned some small oil companies. He remained at Bartlesville in the Phillips Brothers firm until 1914 when the firm was dissolved and Waite Phillips moved to Fayetteville, Ark., where he established a chain of filling stations in the towns around that city. He ultimately owned five stations and did a prosperous business, finally extending into the wholesale gasoline and lubricating oil business.

His Beginning As Producer

In 1916 he moved to Okmulgee and once more attracted by the prospects of the producing end of the business. Success greeted his first efforts in the Okmulgee district and legend has it that he has ever maintained a warm spot in his heart for that city. His first venture was in the purchase of a lease immediately south of the city of Okmulgee near the graveyard. It was a good investment, and the one that gave him his first big money. The first well that he drilled was a good producer and started off with a nice flow. He brought in several other wells on the 55-acre graveyard lease and just at the time when he managed to build up a good production, the terrible fate of proration descended upon the industry. He sold his graveyard lease to the Atlantic Petroleum Co. for a sum reported to be $200,000 and took a vacation until the industry had recovered from the effects of the proration at which time he again entered the business.

Waite Phillips

President of the Waite Phillips Co., whose remarkable rise in the oil world was climaxed by the sale of his company at a price reported to have been $25,000,000.

It was at this time that the fickle Dame Fortune dealt him several of the hard blows which have been his during his career. He drilled dry hole after dry hole in each of the fields around Okmulgee, and his capital dwindled. The remarkable persistence which he has demonstrated carried him through his bad times and once more the sun of success shone upon him. At one time he went to E. W. Kimbley then in the heyday of his own success, and offered to sell the Murrell lease in the Youngstown Pool for a song. Kimbley was a believer in the territory around the Murrell property and advised Phillips to keep the lease. Then came the discovery of the Youngstown Field and the lease owned by Waite Phillips, the Okmulgee Producing & Refining Co. and M. C. French, was found highly productive. This success was followed by other production and the old Youngstown Field gave him his second start in the petroleum business.

On the Road to Fortune

As the production at Youngstown dwindled, the attention of Mr. Phillips was brought to the territory north of the field, and he eventually drilled a well on the site of the present Phillipsville Pool in Section 22-14-11, 2 miles north of Youngstown. The Phillipsville Pool was named after Waite Phillips.

The discovery well in the Phillipsville Pool was found in the Wilcox sand and the well had an initial production of 1,000 bbls. It is reported that some Denver parties were interested in the project with Mr. Phillips and that the night the well came in he jumped on the train and went to Denver where he succeeded in buying their interest out at a high figure. This may and may not be correct, but it is typical of his system. He is of the plunger type, ready to stake all on the soundness of his judgment, and so far the judgment has been phenominally good. If the story about the flying trip to Denver be correct, it was a wonderful purchase, for in the summer of 1920, the Waite Phillips interests had a daily production of more than 10,000 bbls. of oil that commanded $4 a barrel.

Refining-Marketing Activities

It was in 1920 that Waite Phillips first entered the refining end of the oil business, and what is now the refining department of the Waite Phillips Co. Co. had its humble start when the Phillips Highway Refining Co. was formed. This company was owned 75 per cent by Waite Phillips and 25 per cent by the Highway Refining Co. It was formed in June, 1920, and during the same month it purchased a refinery at Okmulgee, Okla., which had formerly been owned and operated by the Okmulgee Producing & Refining Co. The plant at that time had a daily capacity of 1,000 bbls. of crude. This is the plant which today has a capacity of 6,000 bbls. Under the management of O. L. Cordell, the old equipment of the plant has given way to the more modern methods of refining, and all that remains of the old O. P. & R. plant is about $30,000 worth of material, represented by four small stills, and four tanks.

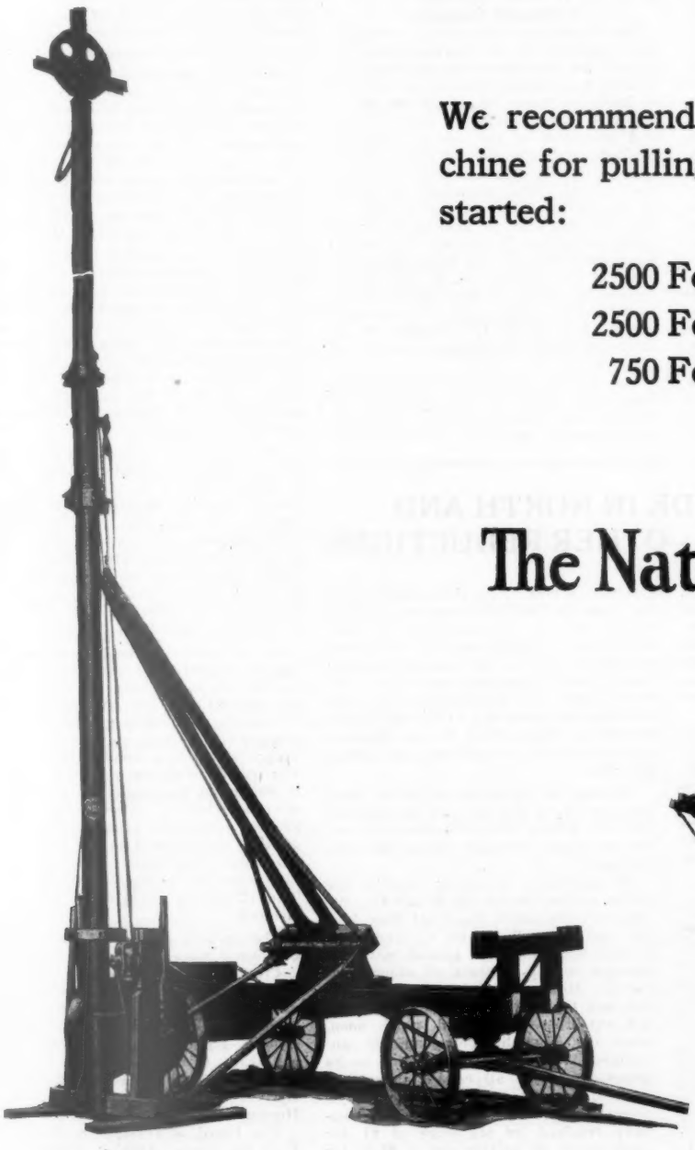
The Okmulgee plant was operated at its 1920 capacity during the summer and fall of that year, and in December, 1920, the 25 per cent interest of the Highway Oil Co. was purchased by Waite Phillips, and the name of the company was changed to the Phillips Higrade Refining Co. It continued to operate the refinery at the rate of 40,000 bbls. a month. During the summer of 1922 additional equipment was added to the plant and the daily capacity was brought up to 3,500 bbls.

On May 1, 1922, the Phillips Higrade Refining Co. and all the other subsidiary companies and interests which had been operated by Mr. Phillips were merged into the Waite Phillips Co., under which name they have operated since. During the summer of 1923 the Okmulgee refinery was again enlarged and given a capacity of 5,000 bbls. daily. Recent changes in the plant have brought the capacity to 6,000 bbls. a day.

From the time that the Okmulgee refinery was purchased by the Waite Phil-

(Continued on Page 141)

NATIONAL PULLING MACHINE



We recommend the National Pulling Machine for pulling the following loads when started:

2500 Feet 2-In. Tubing
2500 Feet 2-In. Rods
750 Feet 13-Lb. Casing

The National Supply Companies

National Petroleum Association Plans

Active work by Various Departments of Organization Preparatory to Annual Meeting at Atlantic City September 16-18

By L. M. Fanning

Plans for the annual meeting of the National Petroleum Association reflect the active work that has been going on during the year by the various departments of the organization, and business sessions of considerable practical value are scheduled. The annual meeting of the association will be held at the Traymore Hotel, Atlantic City, N. J., September 16, 17 and 18. The tentative program provides on the opening day for registration, the president's report and the report of the traffic department. The report of the department of welfare insurance will also be read, and there will be an address by F. A. Epps, of the Tide Water Oil Co., chairman of that department. His subject has not yet been definitely decided upon but it will probably be on fire prevention or evaporation or some allied topic. Mr. Epps, with H. L. Shoemaker, of the Standard Oil Co. (New Jersey), made the survey on oil tank fires in the United States for the American Petroleum Institute.

On the following day the election of officers will be held and reports of the departments of accounting and statistics, of standards and tests and of manufacturing will be presented. There will be an address by a technical authority in the industry on scientific problems or developments. It is also planned to have some prominent Government official address this session.

On the final day the report of the department of trade and commerce will be rendered, and there will be a round table discussion on marketing problems. The report of the department on membership and relations will be made and the meeting will end with the usual banquet.

In addition to the general sessions there will be departmental meetings and committee meetings at which practically every phase of refining will be discussed.

The past year has been one of achievement by the National Petroleum Association, which is the oldest association of oil companies in the United States, having been organized in 1902 by a small group of Pennsylvania refiners. Interest has been greatly stimulated in the activities and possibilities of the association by the recent active functioning of its various departments. While these departments have been in existence for five or six years, with the exception of one or two very little was done departmentally. In most cases, it should be stated, the departments function without paid executives and this still being the case, the accomplishments are contingent upon the time and energy that chairmen and councillors can give voluntarily.

At the last annual meeting, however, the departments were sent ahead with definite programs, and excellent results have been achieved. In the case of the department of manufacture it was recognized that it could accomplish much for members through arranging meetings and inspection trips at which refinery equipment and methods would be studied for the common benefit of the industry. The last annual meeting and subsequent meetings of the entire association have stressed refining methods and problems and have proved very instructive.

Department of Manufacture

The personnel of the department of manufacture comprises B. B. Stroud, trustee in charge, and George C. Armstrong, R. C. Sawyer, H. B. Setzler, L. A. Tarbox and W. S. Zehrung, councillors. It is divided into groups as follows: Pittsburgh group, H. C. Eaton, chairman; Warren group, H. L. Peterson, chairman; Bradford group, B. B. Stroud, chairman; Oil City, Franklin and Titusville group, W. S. Zehrung, chairman. The tentative program for the manufacturing department provided for the assignment of councillors to visit Government experimental stations and make reports and to ararange for addresses by refining experts and round table discussion of refining problems. These activities have been carried on during the year. Two refinery visits have been made under the auspices of the manufacturing department, one to Oil City plants and one to Bradford plants, both of which proved exceptionally profitable to those who made the inspection. In addition local groups have held monthly meetings.

The department of standards and tests which has been one of the most active for some time, continued its work which included liason with the American Petroleum Institute's technical committee, the D-2 committee of the American Society for Testing Materials and the Federal Specications Board Advisory Committee; revision semi-annually of the N. P. A. testing methods and publication annually of the list of standards; and interlaboratory visits by technical representatives of the association's members. This department exerts consistent efforts to have the members use current N. P. A. standard testing methods. E. C. Gardner is the trustee in charge of the department of standards and tests and the councillors are W. F. Bennett, W. E. Espy, R. C. Osterstrom, R. M. Shanklin and J. B. Turk.

Traffic and Transportation

Traffic and transportation matters have been amoung the most important handled by the association. The traffic and transportation department has been expanded. The association has a traffic attorney in the person of Willis Crane, who recently joined the association staff. He was formerly in the employ of the Interstate Commerce Commission and later in practice before that tribunal. Fred W. Boltz is consulting traffic expert. Considerable traffic work is handled through Fayette B. Dow, Washington counsel for the association.

One of the important accomplishments of the traffic and transportation department has been the development of regional traffic clubs. These have held meetings monthly or as required. This department is under the supervision of F. B. Fretter, trustee in charge, and the councillors are C. B. Ellis, E. E. Harrington, T. E. McLaughlin, J. M. O'Day and H. W. Roe. The groups follow: Oil City group, D. E. Carrier, chairman; Pittsburgh group, C. W. Craig, chairman; Bradford group, H. E. Double, chairman; Ohio group, E. E. Harrington, chairman; Warren group, W. F. Jewell, chairman; Philadelphia group, B. C. McPherson, chairman; New York group, W. H. Reed, chairman.

Trade and Commerce

The department of trade and commerce has a program for developing a practical method for the interchange of credit information; consideration of the problem of improving trade ethics, preparation of a code of trade terminology and practices, and promotion of the use of petroleum products and extension of export trade. One of the important activities in connection with this department is discussion of marketing problems. Previously it had been felt that the association should taboo marketing discussions, but at the coming meeting this will be an important phase of the sessions. L. P. Litzinger is trustee in charge of the department of trade and commerce, and the councillors are T. H. C. Allen, J. S. Cordell, W. A. McCafferty, H. C. Moreland and G. G. Woodruff.

One of the most active departments during the past year has been that of welfare and insurance, whose functions, as tentatively outlined, are to provide information and act as a clearing house for members on pension plans, welfare of employes, fire prevention and accident prevention, and to provide a clearing house for members desirous of securing specially qualified new employes. The chief activity of the department has been in connection with fire prevention. Several bulletins have been sent out to refinery fire marshals by the department, prepared by Mr. Epps. Letters were first sent explaining what the job is, giving preliminary information on fire inspections, explaining inspection report forms for buildings and tanks, with copies of forms. Fire Prevention Bulletin No. 1 was on gas-tight tanks; No. 2 was on first aid fire appliances, enclosing booklet entitled "First Aid Applinnces," issued by the National Board of Fire Underwriters, and No. 3 on private fire brigades, enclosing booklet entitled "Private Fire Brigades," issued by the National Board of Fire Underwriters.

Fire Prevention

It is expected the report of this department will give some information of the work accomplished in stimulating the interest of the men in plants in better performance of fire prevention methods. The trustee in charge of the department of welfare and insurance is R. A. Wotowitch, and the councillors are George P. Brockway, J. A. Fawcett, W. H. Fehsenfield, U. G. Lyons and H. H. Willock.

Another department is that of economics, accounting and statistics whose functions are the exchange of information on cost accounting, interpretation of statistics to members and exchange of information regarding accounting forms and systems and commercial forms. P. S. Tarbox is the trustee in charge and the councillors are M. A. Brewster, H. M. Carruth, George H. Detlor, L. C. Enderlin and W. R. Francisco.

The department of legislation and litigation comprises Sheldon Clark, trustee in charge, and J. C. Adams, Frank R. Coates, Samuel Messer, D. W. Moffitt and J. A. Wainwright. The department of membership and relations, whose functions include consideration of a plan for public relationship work, comprises Fred G. Clark, trustee in charge, and Harry Fuller, T. J. Hillard, E. M. Lyons, W. E. MacEwen and P. M. Miskell.

As indicated by the personnel of the various departments given above, each department is in charge of a trustee of the association. The policies and activities of the association are determined by a board of nine trustees elected annually. The president is a member of the board. The trustee in charge of each department is assisted by five councillors and a group of committeemen chosen from various member companies because of their experience and interest in the work of the particular department. The matter of increasing the number of trustees from 9 to 12 will be voted on at the coming meeting.

The present officers of the National Petroleum Association are as follows:

President, O. P. Keeney; first vice president, Sheldon Clark; second vice president, Frank B. Fretter; general counsel, C. D. Chamberlin; Washington counsel, Fayette B. Dow; traffic attorney, Ellis Crane; consulting traffic expert, Fred W. Boltz; recording secretary, Herbert G. Eaton; treasurer, G. B. Hunter.

The board of trustees is as follows: Fred G. Clark, Sheldon Clark, F. B. Fretter, L. P. Litzinger, O. P. Keeney, E. C. Gardner, B. B. Stroud, P. S. Tarbox, R. A. Wotowitch.

HUMBLE CUTS CRUDE IN NORTH AND CENTRAL TEXAS—OTHER REDUCTIONS

The crude market both in the East and in North and Central Texas softened in the past week, but up to Tuesday evening the effect in the Mid-Continent had not become general, the Humble Oil & Refining Co. and Magnolia Petroleum Co. having been the only ones to lower their prices.

The Humble Oil & Refining Co. on Saturday, August 15, made a general cut in crude in the Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran fields in Texas. The company's new prices and former prices together with the amount of reduction in each grade follows:

	Prices posted Aug. 15	Former Prices	Reduction
28-28.9	$1.35	$1.40	$ .05
29-29.9	1.41	1.48	.07
30-30.9	1.47	1.56	.09
31-31.9	1.53	1.64	.11
31-31.9	1.53	1.64	.11
32-32.9	1.59	1.72	.13
33-33.9	1.65	1.80	.15
34-34.9	1.71	1.88	.17
35-75.9	1.71	1.90	.19
36-36.9	1.83	2.04	.21
37-37.9	1.89	2.12	.23
38-38.9	1.95	2.20	.25
39-39.9	2.01	2.28	.27
40-40.9	2.07	2.36	.29
41-41.9	2.13	2.44	.31
42-42.9	2.28	2.60	.35
43-43.9	2.25	2.60	.35
44-44.9	2.31	2.68	.37

Explaining the new schedules, R. L. Blaffer, vice president of the Humble Oil & Refining Co., said:

"As the market value, especially of gasoline, is lower than that prevailing at the time the one degree gravity schedule of July 10 was put into effect, it must be apparent to every one that the grades of lighter gravity and greater gasoline content are of relatively less value. We have posted this differential of 6 cents per degree in place of a 8 cents per degree gravity, as representing in our judgment the relative value of the crudes of various gravities."

As most of the crude oil in the territory served by the lines of the Humble pipe line grades from 36 degrees upward, the cut really averaged around 27 cents per barrel.

Oil producers anxiously awaited the action of the Prairie Oil & Gas Co., the Magnolia Petroleum Co., Gulf Pipe Line Co., and Texas Pipe Line Co. and other buyers but Saturday passed with no changes in the markets of other companies. Monday passed and still no one had met the Humble's cut and Tuesday saw conditions unchanged until noon, when the Magnolia Petroleum Co. announced a change in its schedule in its Texas prices for all crudes above 30.9 degrees, adopting the Humble company's prices and grades. The Magnolia company retained its old price of $1 for crude below 28 gravity and of $1.35 for crude from 28 to 30.9 degrees.

The only change announced in Okla-

(Continued on Page 140)

Late News From the Fields

OKLAHOMA

In the Garber Field the largest well to be completed in the upper pay which is thought to be a break in the Mississippi lime is the Marland Oil Co.-Mid-Continent Petroleum Corp.'s No. 45 School Land, NE cor. SE SE Section 13-22-4w. This well had the top of the pay at 4,195 feet and started flowing at 2 o'clock Tuesday morning. The first hour the well flowed 750 bbls. and between 2 and 5 a. m. it put 2,500 bbls. into the tanks. It was flowing late Tuesday afternoon at the rate of 330 bbls. an hour. During the late morning it maintained a flow rate of 500 bbls. an hour. Like all the wells in this pay at Garber its decline seems to be rapid.

The Roxana Petroleum Corp.'s No. 2 Schroder, NW cor. SW SW Section 18-22-3w, gauged 1,885 bbls. for the 24 hours ending Tuesday morning at 7 a. m. The total depth of the well is 4,216 feet.

Roxana Petroleum Corp.'s No. 1 Wolfe, the farthest north deep sand well in the Garber Pool, made 1,119 bbls. for the 24 hours ending Tuesday morning. This well was given a light shot.

Sinclair Oil & Gas Co.'s No. 20 Kisner, NW cor. NW Section 19-22-3w, is fishing for a liner and the well made 167 bbls. on Monday. Sinclair Oil & Gas Co.'s No. 26 Denker, NE cor. SW Section 13-22-4w, has a total depth of 4,474 feet, and the well made 992 bbls. on Monday. The Sinclair Oil & Gas Co.'s No. 25 Belveal, the discovery well in the Wilcox sand, made 2,200 bbls. on Monday.

Braman Gauges

In the Braman Townsite Pool the following are the gauges of the wells for the 24 hours ending Tuesday morning at 7 a. m.

	Bbls.
Comar Oil Co's No. 1 Bechtel	5,942
Comar Oil Co.'s No. 2 Bechtel	2,556
Comar Oil Co.'s No. 1 Horne	3,278
Comar Oil Co.'s No. 3 Horne	20
Comar Oil Co.'s No. 1 Johnson	1,811
Total Comar production	13,607
Herbert Oil Co.'s No. 1 Community	4,656
Herbert Oil Co.'s No. 2 Community	8
Shawver and others No. 1 Townsite	22
Total production of the pool	18,293

In the Thomas Pool the two deep sand wells made the following production on Monday:

Marland Oil Co.'s No. 2 Thomas	3,227
Twin State Oil Co.'s No. 2 Siler	535
Total	3,762

In Stephens County a new well that has an initial production far above the average is the Commercial Drilling Co.'s No. 1 Fobb, SW cor. SW Section 12-2s-8w. This well had the pay sand at 1,739-42 feet and made 800 bbls. the first 24 hours.

The Comanche County wildcat well of George Hanbury and others, No. 1 SW cor. SE NE Section 30-2-9w, Munson, begins to look doubtful. It made only 20 bbls. the 24 hours ending Tuesday morning and it will be tubed. It was drilled 5 feet deeper from 2,005 feet to 2,010 feet.

GULF COAST

HOUSTON, Tex., Aug. 18.—One of the best wells in months in the Hull Pool came in late in the week. It is the Humble Oil & Refining Co.'s No. 4 Merchant, on the northwest side, flowing 4,500 bbls. initial at 4,125 feet.

A spark from a boiler at a drilling well in the Orange Pool, spread to a dry marsh and the flames, fanned by a strong breeze, ignited the Gulf Production Co.'s No. 14 Hager on the west side of Cow Bayou. The well was flowing 2,200 bbls. per day. Field men for the Gulf and Humble companies were hemmed in by the flames and were compelled to jump into the bayou and swim to the opposite bank. The county bridge crossing the bayou was slightly damaged. The loss is estimated at $5,000 exclusive of the oil from the burning well.

The Humble Oil & Refining Co.'s No. 1 Bennett, 9 miles southwest of Kingsville, Klerberg County, blew out and flowed wild for a time. It finally bridged over and will be drilled deeper.

The Magnolia Petroleum Co.'s No. 1 Kime in Milam County, an interesting wildcat, bailed sulphur water. The hole was bailed to within 700 feet of the bottom at 3,805 feet.

In the Lockhart Field, Gulf Production Co.'s No. 13 Brewer, which was a 300-bbl. originally and quit, was swabbed and restored to production. It came back flowing 2,000 bbls. The Humble Oil & Refining Co.'s No. 7 Cardwell is making 200 bbls. at 1,600 feet. The Eagle Drilling Co.'s No. 2 Cardwell is doing the same.

NORTH CENTRAL TEXAS

FORT WORTH, Tex., Aug. 18.—There are three new producers in the shallow sand districts of northern Young County, according to late reports from the field. Two of these are on the Campbell D lease of Murchison & Fain, in the Litchfield-Madden Pool. No. 12-D Campbell is making an estimated 100 bbls. daily from the sand at 968 to 984 feet, and No. 13-D Campbell is making 275 bbls. at 970 to 984 feet.

The Petroleum Producers Co.'s No. 1 Kilcrease, in the new Kilcrease district, is showing for a fairly good producer. It is making an estimated 115 bbls. daily in sand at 1,020 to 1,029 feet.

Fred Hyer, of Forth Worth, has made location and is moving in the rig for his No. 1 Clay, a wildcat in the southern part of Howard County. The location is 300 feet each way from the northwest corner of the southeast quarter of the southwest quarter of Section 139, Block 29, of the Waco Northwestern Railway Co. survey of Howard County. The well is to go 3,000 feet and is to be drilled with standard tools.

WYOMING

Field Runs for the Week

Salt Creek	62,640
Teapot Dome	1,840
Bid Muddy	3,320
Grass Creek	5,570
Elk Basin	880
Greybull	30
Rock Creek	2,680
Notches	320
Rex Lake	400
Lance Creek	690
Poison Spider	1,530
Osage	330
Hamilton Dome	630
Mule Creek	740
Lander	230
Byron	50
Pilot Butte	180
Lost Soldier	5,880
Ferris	90
Miscellaneous	100
New Mexico	
Hogback	540
Rattlesnake	490
Artesia	2,500
Montana	
Cat Creek	3,500
Sunburst	9,000
Colorado	
Tow Creek	120
Boulder	25
Rangeley	100
Florence	260
Moffat	2,240
Fort Collins	1,230
Total	108,135

QUANTITY OUTPUT OF BUSES

William A. Fisher, president of the Fisher Body Corp., announces that his company has taken over two Detroit plants of the Buick Motor Co., and will enter upon quantity production of motor bus bodies. "Operations will be begun immediately as volume production is assured from orders now on hand from the Yellow Truck & Coach Co.," the announcement said. The General Motors Co. recently acquired controlling interest in the Yellow Coach Co.

TO LOCATE IN MID-CONTINENT

W. C. Booz, general manager of the Booz Manufacturing & Supply Co., Van Buren, Ind., has been in Tulsa looking over sites for removal of the plant of the company to the Mid-Continent Field.

Deliveries Exceed Pipe Line Runs in Smackover in July

EL DORADO, Ark., Aug. 18.—The Laurel Oil & Gas Co.'s No. 2 Houston, NE SE Section 12-16-16, tested a hole full of salt water from sand at 2,602-10 feet. This well is on the lease on which the company got a producing well in the Lawton sand. It is on the west side of the deep Smackover area.

The Roxana Petroleum Corp.'s No. 3-A Bennett, SW NE NW Section 32-15-15, got sand at 2,580-90 feet and is blowing 30,000,000 feet of gas and a spray of oil.

The Gulf Oil Refining Co. of Louisiana's No. 1 Howard, NE NW Section 13-16-16, was coring at 2,726 feet.

Graves sand production for the 24 hours ending Saturday was 134,206 bbls. from 616 completions; Blossom-Lawton sand production, 15,986 bbls. from 39 completions. Graves sand production reported for the 24 hours ending Sunday morning was 135,560 bbls. from 617 completions; Lawton-Blossom sand, 15,708 bbls. from 39 wells. Total number of oil wells drilled to Sunday in Graves and Lawton-Blossom sands, 656; number now producing, 493; dead, 163; pumping, 45; blowing with gas or air, 45; wells making over 75 per cent salt water or sediment, 53.

Pipe Line Statement for July

In the month of July a total of 7,972,324 bbls. of Smackover crude, light and heavy was run by the pipe lines. Of this 7,213,752 bbls., or 232,702 bbls. per day, was heavy crude and 758,572 bbls., or 24,470 bbls. per day, was light crude, a total daily average of 257,172 bbls.

The shipments and deliveries of Smackover oil during the same month were 7,841,996 bbls., an average of 252,964 bbls. per day.

The stocks at the close of July included 20,052,947 bbls. of available pipe line oil and 5,256,617 bbls. of bad oil or a total of 25,309,564 bbls.

SUMMARY OF STOCKS JULY 31

	Barrels
Pipe line oil in earthen storage	14,804,581
Pipe line oil in steel storage, light	284,799
Pipe line oil in steel storage, heavy	4,610,054
Pipe line oil in steel storage, mixed	353,513
Total available pipe line oil	20,052,947
Total amount of oil in storage not pipe line oil	5,256,617
Total amount of oil in Smackover Field	25,309,564

Deliveries By Pipe Line in the Month of July

	Barrels
Amerada Petroleum Corp., to Hughes-Speth Pipe Line Co., heavy	46,580
Atlantic Oil Prod. Co. to Shreveport El Dor., light	28,439
Walter K. Campbell Co. to Houston Oil of Texas, heavy	32,621
Houston Oil Co. of Texas to Houston refinery, heavy	30,403
Houston Oil Co. of Texas to St. L. Sw. R. R. Co., heavy	121,549
Humble Oil & Ref. Co. to Louisiana Oil & Ref. Corp., heavy	74,441
Natural Gas & Fuel Corp. to Mo. Pac. R. R. Co., heavy	77,922
Root Refineries to Crusader Pipe Line Co. of La., heavy	22,496
Shreveport El Dorado P. L. Co. to H. H. Cross Co., heavy	5,826
Shreveport El Dorado P. L. Co. to Southern P. L. Co., heavy	103,488
Simms Oil Co. to H. H. Cross Co., heavy	5,923
The Texas Pipe Line Co. to the Simms Oil Co., heavy	31,040
Total	646,795

Deliveries By Tank Cars (July)

Standard Pipe Line Co., Inc., to Arkansas Light & Power Co., heavy	21,058

Oil Moved from Smackover District by Pipe Lines in the Month of July

Gulf Ref. Co., of La., mixed	409,799
Louisiana Oil & Ref. Corp., light	198,630
Louisiana Oil & Ref. Corp., heavy	3,558
Lion Oil & Ref. Co., heavy	387,962
Root Refineries, heavy	98,421
Shreveport El Dorado P. L. Co., mixed	376,541
Standard Pipe Line Co., Inc., light	166,981
Stand. Pipe Line Co., Inc., heavy	737,939
The Texas Pipe Line Co., mixed	51,357
The Texas Pipe Line Co., heavy	314,858
United Central Oil Corp., heavy	31,962
Total	2,638,009
Daily average	83,997

Oil Moved from Smackover District by Tank Cars in July

American Pet. Co. of Texas, heavy	68,394
H. H. Cross Co., mixed	65,642
Crusader P. L. Co. of La., heavy	252,888
Gulf Ref. Co. of La., heavy	1,178,897
Home Ref. Co., light	5,416
Houston Oil Co. of Texas, heavy	93,750
Hughes-Speith P. L. Co., heavy	85,724
Louisiana Oil & Ref. Corp., light	74,441
McMillan - Fehlman & Oliver, heavy	140,353
Missouri Pac. R. R. Co., heavy	79,688
Pure Oil Co., heavy	168,728
Sam M. Richardson & Co., Inc., heavy	13,893
Root Refineries, heavy	201,724
Simms Oil Co., heavy	163,580
Std. Pipe Line Co., Inc., heavy	1,220,901
Sun Oil Co., heavy	271,600
United Central Oil Corp., heavy	5,600
Total	4,356,134
Daily average	140,520

Monthly Total of Runs

Total of all pipe line runs East Smackover	7,213,752
Total of all pipe line runs in light oil district	758,572
Grand total of all pipe line runs	7,972,324
Daily average of all pipe line runs	257,172

YOUNGSTOWN MAY LOSE NATURAL GAS SUPPLY

YOUNGSTOWN, Ohio, Aug. 17.—Upon what happens on or before August 23 depends whether or not the citizens of Youngstown, Ohio, will further enjoy the luxury of natural gas. Youngstown may be without gas after August 23, said an announcement issued by C. E. Gallagher, local manager of the East Ohio Gas Co., in that city, in discussing the filing of referendum petitions calling for a vote on a franchise recently negotiated between the city and the company and embodied in an ordinance passed by the Youngstown council.

"Our present contract expires on that date," the statement said, "and inasmuch as the filing of the referendum petition means that the new ordinance cannot become effective, if at all, before the November election, the right of the company to occupy the streets after August 23, will have closed, and to protect our property rights, it would be necessary for us to take the action I have mentioned."

The statement added that if a sufficient number of those who signed the referendum petition will withdraw their names, the ordinance then would become effective as passed. The withdrawal of names from the petition is expected.

VERY THICK OIL SAND FOUND NEAR GLADE, PA.

Writing from Jamestown, N. Y., V. A. Billstone tells a most remarkable run of oil sand encountered on one of the oldest producing properties in Warren County, Pennsylvania, last week on the Billstone Brothers' property in Glade Township. Insofar as it is known this well contains the greatest amount of true oil bearing sand in the county.

The two well-known sands are always encountered there, the Glade and Clarendon, the distance between the sands, top to bottom, averaging 90 feet, with a shale and slate formation in between.

True oil bearing sand was found in this well from the top of the first formation to the bottom of the second, with no break. Good wells, drilled near this well over 48 years ago are still producing.

The well was shot in 80 feet of space on August 8, and in some manner the well opening became bridged, causing 525 feet of casing to be blown out of the hole, which demolished the derrick.

The final completion of this well is being watched with interest by oil men operating thereabouts, who are surprised to learn that the two formations, from top to bottom, are one continuous run of sand.

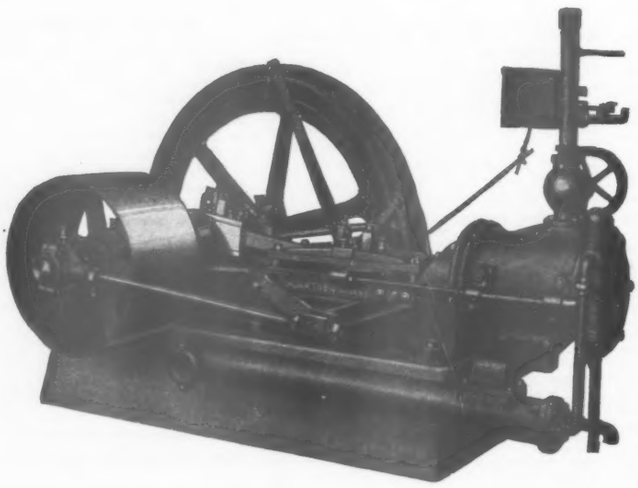
DEATH OF W. M. LAMB

Fatigued from the loss of sleep and hard work, Walter M. Lamb, 36, president of the Lewalt Drilling Co., fell asleep behind the steering wheel of his automobile Wednesday morning and plunged down a 30-foot ditch 15 miles east of Breckenridge, Tex., to his death.

MISSOURI OIL INSPECTOR

ST. LOUIS, Mo., Aug. 15.—Governor Samuel A. Baker of Missouri has appointed W. A. McAtee of Springfield as State inspector of oils. He will succeed Asa W. Butler, whose term expired August 17.

AJAX STEAM



Genuine Ajax Replacement parts maintain the original value and efficiency of your engine. A complete stock is carried at all National Supply Company branches.

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In every oil field

DRILLING ENGINES

How We Make The Ajax Engine

TO BEGIN with we use the best materials. If steel is better than iron we use steel without question. Then we make the parts in the best way. If a forging is better than a casting we use a forging. If a casting is best you may be sure that it is the finest product that modern equipment and expert foundrymen can turn out. Then we machine the parts with all the care of modern precision methods. We then assemble the engine and give it a running test. All this is done in a plant that takes advantage of everything in up-to-date equipment. The men who make the engine have been working at the job for years.

TEST PIECES

These test pieces were turned from an Ajax crankshaft which was taken from stock. Notice the "cup break" Metallurgical tests of Ajax engine parts are part of regular routine in the Ajax plant.

North-Central Texas Field

By George R. Kelley

Record number of completions for year produce 385 bbls. less than previous week. Wichita and Archer Counties have more than half total. F. & H. Syndicate's No. 3 Luke F. Wilson, Archer County, estimated close to 500 bbls. Murchison and others' No. 1-D Waggoner, Wilbarger, makes 130 bbls.

FORT WORTH, Tex., Aug. 17.—While things have moved along apparently very slowly and at least quietly during the week in North Central Texas a record for the year 1925 was set in the number of wells completed. There were no big shows anywhere in the territory but when the curtain dropped for the week it was found that operators had turned in a total of 111 completions. This was 36 more completions than were accounted for during the previous week.

Even with this record for completions, when there were 65 producers accounted for, 26 more than for the week before, new production added was pitifully small. New production for the week amounted to only 3,505 bbls., or 385 bbls. less than 39 new oil wells the week before afforded. This is an average of a little less than 54 bbls. per well for the 65 new producers during the week. There is a decline of nearly 3,500 bbls. daily in production which is naturally to be expected under such conditions.

Two counties, Wichita and Archer, furnished considerably more than half of the completions for the entire North Central Texas district. There were 42 in Archer County and 21 in Wichita County. Yet Archer County turned in only 1,160 bbls. of new production and Wichita County accounted for only 835 bbls. Reagan County, which frequently furnishes a good completion or two to swell the new production column, failed to report a single completion during the week and Eastland County had only three, all of which were failures. Stephens County, which also during recent months has been accounting for some good new wells, recorded only 200 bbls. of new production this week.

Completions by Districts

The following table gives the completions by districts together with the totals for this week and the previous week for comparison:

District—	Comp.	Prod.	Dry	Gas	New Prod.
Wichita	21	13	8	0	835
Wilbarger	9	7	2	0	445
Archer	42	24	18	0	1,160
Young	11	8	3	0	440
Stephens	7	3	4	0	*200
Eastland	3	0	3	0	000
Brown	8	5	2	1	*200
Wildcats	10	5	5	0	225
Total	111	65	45	1	3,505
Last week	75	39	34	2	3,890
Difference	36	26	11	1	385

*Stephens, 1,500,000 gas; Brown, 3,500,000 gas; total, 5,000,000 gas.

Average daily production for the week shows a decline of 3,458 bbls. Total is 166,781 bbls., compared with a total for the week before of 170,239 bbls. Gains were registered in Wichita and Archer Counties and there was also a small gain in Wilbarger County, but losses were reported in Young County, Ranger and Eastland-Comanche district. The Panhandle registered a slight decline and there was a drop of more than 1,000 bbls. in daily average in Stephens County.

The F. H. E. Oil Co. has adopted the policy of deepening its wells on the Dunagan lease in northern Young County for the purpose of increasing the production. One of these, No. 4, has already been deepened 3 feet into the pay sand and the production has increased between 50 and 75 bbls. Other wells will be drilled deeper until the production is increased or until there is a change in the formation.

There is one new producer on the Dunagan lease in northern Young County which has not yet been completed. It is Beavers and others' No. 2 Dunagan, which has 3 feet of pay at a total depth of 1,001 feet. The well is swabbing at the estimated rate of 175 bbls.

Good Producer in Archer

The F. & H. Syndicate apparently has a very fine producer in its No. 3 Luke F. Wilson in the north half of Archer County. The well has 14 feet of pay sand topped at 1,509 feet and on a 14-hour test the well swabbed 255 bbls., or at the rate of close to 500 bbls. in 24 hours. Lomax and others' No. 2 Wilson, is also a new producer. It is swabbing at the rate of 150 bbls. daily from a total depth of 1,520 feet with 4 feet of pay sand.

In the south half of Archer County Root and others' No. 3 Routan, is a small well, making an estimated 35 bbls. daily from sand at 1,263 to 1,274 feet.

The week's reports show one new producer of fair proportions in Wilbarger County. It is Murchison and others' No. 1-D Waggoner, which is reported swabbing at the rate of 130 bbls. from sand topped at 1,312 feet and drilled into only 2 feet.

Two new producers are reported on the Grace Jennings farm in the Electra district of Wichita County. One is the Dale Oil Corp.'s No. 11 Jennings, which is swabbing at the rate of 300 bbls. from 10 feet of pay sand topped at 1,810 feet. The other is Bullington and others' No. 4 Jennings, which is swabbing at the rate of 2½ bbls. an hour while preparations are being made to put it on the pump. It has 10 feet of pay sand at a total depth of 1,480 feet.

The Big Lake Field in Reagan County reports three new producers, none of which are completed. The largest is the Texon Oil & Land Co.'s No. 18 Group 1 University, which is flowing 80 bbls. an hour from 2,929 to 2,940 feet. The same company's No. 21 Group 1 University, is flowing 20 bbls. an hour from the top of the pay at 2,864 feet. Big Lake Oil Co.'s No. 35 University, is making 445 bbls. from the pay at 2,875 to 2,900 feet.

In Stephens County Lyman and others' No. 4 Langford, is making 4,000,000 feet of gas at 1,892 feet.

Completions—Wichita County

Ascot's No. 31 Roller, 10 bbls. at 997 feet; Bonchill Co.'s No. 1 Bentley, dry at 1,010 feet; Bullington and others' No. 3 Jennings, 10 bbls. at 1,626 feet; Electra Gulf Oil Co.'s No. 4 Murray, 135 bbls. at 1,770 feet; Fisher and others' No. 1 Burnett, dry at 1,876 feet; Gulf Production Co.'s No. 13 Jennings, dry at 1,964 feet; Hammond and others' No. 1 Burnett, 110 bbls. at 1,802 feet; Hooser and others' No. 4-A Mitchell, dry at 2,002 feet; No. 4-B Mitchell, 100 bbls. at 1,295 feet; Hudson and others' No. 1 Ancell, dry at 2,002 feet; Humble Oil & Refining Co.'s No. 4 Allen & Kemp, 125 bbls. at 1,646 feet; Magnolia Petroleum Co.'s No. 13 Douglas, dry at 2,042 feet; Moran and others' No. 3 Waggoner, 5 bbls. oil and 5 bbls. water at 704 feet; O'Donohoe and others' No. 5-B Allen & Kemp, 25 bbls. at 1,648 feet; No. 6-B Allen & Kemp, 85 bbls. at 1,648 feet; Patterson and others' No. 3 Fisher, 10 bbls. at 1,583 feet; Petroleum Production Co.'s No. 9-B Allen & Kemp, dry at 1,800 feet; Ryan Petroleum Co.'s No. 36 Nance, 65 bbls. at 1,321 feet; Straus and others' No. 6 Allen & Kemp, 15 bbls. at 1,642 feet; The Texas Co.'s No. 15 Maer, 140 bbls. at 1,768 feet; White Brothers Co.'s No. 3 McCarty, dry at 1,712 feet.

Wilbarger County

Bridwell and others' No. 9 Dill, 45 bbls. at 2,322 feet; No. 10 Stephens, 60 bbls. at 2,292 feet; Consolidated Oil Co.'s No. 1 Waggoner, Section 27, dry at 2,607 feet; Duke and others' No. 1 Archer, dry at 2,253 feet; McCamey and others' No. 9 Stephens, 110 bbls. at 1,924 feet; No. 21 Stephens, 40 bbls. at 1,815 feet; Ray and others' No. 5 Bond, 130 bbls. at 1,299 feet; Staley and others' No. 3-A Bond, 50 bbls. at 1,849 feet; Tidal Oil Co.'s No. 1 Waggoner, 20 bbls. at 1,976 feet.

Archer County

Ard and others, Kemp and Kempner, 5 bbls. oil and 5 bbls. water at 1,640 feet; Barkley and others' No. 9 Wilson, 120 bbls. at 1,523 feet; Burns and others' No. 5 Wilson, 40 bbls. at 1,416 feet; Consolidated Oil Co.'s No. 1 Netherton, dry at 1,757 feet; Humble Oil & Refining Co.'s No. 1 Cowan, dry at 1,603 feet; No. 4 Oil Investment Co., 40 bbls. at 1,423 feet; Kentucky Oil Corp.'s No. 1 Wilson, dry at 1,570 feet; McCarty Oil Co.'s No. 9-B Wilson, 20 bbls. at 909 feet; No. 10-B Wilson, dry at 544 feet; No. 11-B Wilson, 25 bbls. at 912 feet; No. 12-B, dry at 1,055 feet; Muse and others' No. 1 Wilson, 80 bbls. at 1,524 feet; Pace and others' No. 1 Wilson, dry at 1,445 feet; Ramming and others' No. 1 Andrews, dry at 1,550 feet; Sun Oil Co.'s No. 2-A Wilson, 10 bbls. oil and 15 bbls. water at 1,413 feet; Texhoma Oil & Refining Co.'s No. 5-A Taylor, 85 bbls. at 1,612 feet; White Eagle Oil & Refining Co.'s No. 2 Wilson, 35 bbls. at 1,431 feet; Clark and others' No. 3 Cowan, 10 bbls. at 1,104 feet; County Line Oil Co.'s No. 8 Stampfli, 35 bbls. at 1,361 feet; Empire Gas & Fuel Co.'s No. 4 Anderson, 40 bbls. at 1,429 feet; Gillespie and others' No. 1-A Wolf, dry at 1,816 feet; Gulf Production Co.'s No. 14 Monohan, 30 bbls. at 1,302 feet; Oil Investment Co.'s No. 13, 30 bbls. at 1,429 feet; Humble Oil & Refining Co.'s No. 3 Brown, dry at 1,491 feet; Magnolia Petroleum Co.'s No. 12 Stampfli, 1 bbls. oil and 40 bbls. water at 1,364 feet; Major Petroleum Co.'s No. 8 Cowan, 20 bbls. at 1,140 feet; Morland & Co.'s No. 1 Logan, dry at 1,455 feet; Mooers and others' No. 5 Sckert, 120 bbls. at 1,205 feet; Murchison and others' No. 2-C Echols, dry at 1,391 feet; No. 8 Wood, dry at 1,355 feet; Perkins and others' No. 2 Anderson, 35 bbls. oil and 35 bbls. water at 1,437 feet; No. 3 Anderson, 110 bbls. at 1,426 feet; Waite Phillips' No. 4 Wolf, 70 bbls. at 1,386 feet; Prairie Oil & Gas Co.'s No. 32-B Richardson, dry at 1,424 feet; No. 25 Richardson-Mayfield, 70 bbls. at 1,326 feet; Sun Oil Co.'s No. 12 Farmer, dry at 1,525 feet; The Texas Co.'s No. 6 Hill, 100 bbls. at 1,363 feet; No. 2 Key, dry at 1,793 feet; No. 8 Rogers, 30 bbls. at 1,268 feet; Texas Unity Oil Co.'s No. 1 Dalton, dry at 1,510 feet; Wright and others' No. 1 Wilson, dry at 1,131 feet; Young and others' No. 1 Fee, dry at 1,502 feet.

Young County

Christie Brothers' No. 6 McLaren, 60 bbls. at 2,409 feet; Humble Oil & Refining Co.'s No. 1 Kilcrease, 95 bbls. at 1,003 feet; No. 6 Mercer, 45 bbls. at 1,082 feet; No. 7 Mercer, 25 bbls. at 1,086 feet; Mahlstedt Mook Oil Co.'s No. 1 Leberman, dry at 1,504 feet; Mooers and others' No. 1-B Jackson, 10 bbls. at 1,228 feet; Murchison and others' No. 1 Morrison, dry at 1,156 feet; No. 10-D Campbell, 150 bbls. at 991 feet; Richardson Brothers' No. 1 Barrett, dry at 603 feet; Simms Oil Co.'s No. 5 Cheeves, 5 bbls. oil and 5 bbls. water at 1,021 feet; No. 9-B Carpenter, 50 bbls. at 1,026 feet.

Stephens County

Abilene Cisco Oil Corp.'s No. 1 Pritchard, dry at 3,772 feet; No. 3 Pritchard, dry at 3,570 feet; Barkley and others' No. 4 Pritchard, 150 bbls. at 3,560 feet; Coryelius Brothers' No. 1 Spicer, dry at 3,805 feet; McLester Oil Co.'s No. 3 Pritchard, dry at 3,801 feet; Phillips Petroleum Co.'s No. 2 Moore, 5 bbls. oil and 1½ bbls. water and 1,000,000 feet of gas at 3,868 feet; T. & P. Coal & Oil Co.'s No. 56 Binney, 35 bbls. at 1,935 feet.

Eastland County

Panhandle Refining Co.'s No. 1 Casey, dry at 1,684 feet; States Oil Corp.'s No. 4 Summervale, dry at 3,700 feet; Lowe and others' No. 3 Jackson, dry at 3,016 feet.

Brown County

Cranfill and others' No. 1 Stone, 3,500,000 feet of gas at 1,125 feet; Gillman and others' No. 16 Newton, dry at 1,345 feet; Gillman and McMurray's No. 5 Teston, 40 bbls. at 1,255 feet; J. K. Hughes Dev. Co.'s No. 1 Arledge, 20 bbls. at 1,317 feet; Mendenhall and others' No. 8 Newton, 20 bbls. at 1,256 feet; Moore and others' No. 2 Baxter, 60 bbls. at 1,297 feet; No. 2 Chambers, dry at 1,328 feet; Moore and Wilson's No. 5 Gafford, 60 bbls. at 1,358 feet.

Throckmorton County

Gray and others' No. 1 Polk County School Land, dry at 1,538 feet; Staley and others' No. 1 Cole, dry at 1,851 feet.

Shackelford County

Phillips Petroleum Co.'s No. 5 Parrish, 50 bbls. at 2,120 feet.

Wheeler County

Midwest Exploration Co.'s No. 3 Williams & Laycock, 50 bbls. at 2,300 feet; Three N Oil Co.'s No. 1 Williams & Laycock, 455 bbls. at 2,180 feet.

Baylor County

Maer and others' No. 3 Mills, 30 bbls. at 1,422 feet.

Montague County

Noncona Gas Co.'s No. 2 Hinds, 75 bbls. at 930 feet; The Texas Co.'s No. 3-A Gist, dry at 2,238 feet.

Coleman County

Canyon Oil & Gas Co.'s No. 1 Morris, dry at 3,014 feet.

Irion County

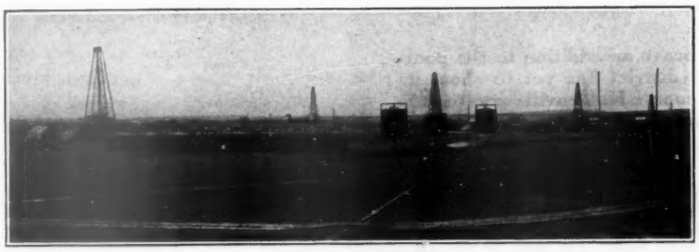
Gladys Belle Oil Corp.'s No. 1 Suggs, dry at 1,890 feet.

PRODUCTION REPORT
For Week Ending August 13

Burkburnett		
Gulf Production Co.	570	
Humble Oil & Refining Co.	378	
Magnolia Petroleum Co.	2,900	
Panhandle Refining Co.	325	
Prairie Oil & Gas Co.	25	
Sinclair Oil & Gas Co.	54	
Sun Co.	110	
The Texas Co.	475	
Texhoma Oil & Refining Co.	430	
Miscellaneous	8,900	
Total		14,167
Iowa Park		
Gulf Production Co.	40	
Humble Oil & Refining Co.	350	
Magnolia Petroleum Co.	601	
Panhandle Refining Co.	35	
The Texas Co.	724	
Texhoma Oil & Refining Co.	45	
Miscellaneous	3,895	
Total		5,690
Electra		
Empire Gas & Fuel Co.	1,040	
Gulf Production Co.	860	
Humble Oil & Refining Co.	155	
Magnolia Petroleum Co.	3,832	
Panhandle Refining Co.	55	
Prairie Oil & Gas Co.	125	
The Texas Co.	3,650	
Texhoma Oil & Refining Co.	1,687	
Miscellaneous	5,830	
Total		17,234
Archer County		
Empire Gas & Fuel Co.	935	
Gulf Production Co.	2,180	
Humble Oil & Refining Co.	565	
Magnolia Petroleum Co.	1,650	

(Continued on Page 139)

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



A view of the Cromwell Field, Okla., where among lease and small storage tanks, Perfections predominate.

Question: Why do you say in your claims for Perfection Vapor Pressure Tanks that they are the standard of comparison in most fields?

Answer: No lease tank manufacturer today is able to enter any single field in the country with his product, unless he claims it conforms to certain specifications that will make the tank immune from the ravages of evaporation and make it hold up gravity.

And those "certain specifications" were set originally by our engineers. They really constitute the Perfection Vapor Pressure Tank. In it are those qualities which have set the standard by which all other tanks are judged.

You had better not experiment with a product represented to be just as good but stick to the tank that is the "Standard of Comparison" in all fields.

And don't forget that in every active field there is one of our personal representatives with his dependable crew who are just as anxious as you that Perfection Vapor Pressure Tanks give complete satisfaction.

Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

Oklahoma Field Operations

By J. L. Dwyer

Important showing in Comanche County may prove an addition to the pools in the Duncan-Lawton territory. The Garber district has yet to show its deep sand potentiality but it should be known soon. Holdenville pool comes back and is looking better. Two old fields spring surprises.

The Garber Field, in Garfield County, was the magnet that attracted the oil men of Oklahoma last week. From present indications it would seem that both the lime formations, Oswego and Mississippi, are rather flashy and do not have the staying qualities in production. Two wells in the lime have started off spectacularly, only to slip rapidly, and they are now being drilled down to the Wilcox formation. The lime wells are Sinclair Oil & Gas Co.'s No. 20 Kisner, the east offset to the Sinclair Oil & Gas Co.'s No. 25 Belveal, the discovery well, in the NE cor. Section 24-22-4w. The Kisner well had been identified as producing from the Oswego lime and it averaged 200 bbls. a day last week. It now has a depth of 4,100 feet and a liner is stuck in it. It will be pulled out.

The Roxana Petroleum Corp.'s No. 1 Wolfe, recorded last week, is dropping in production and is now making 1,225 bbls. The Sinclair Oil & Gas Co.'s No. 26 Denker, the south offset to the Wolfe well, is drilled in and producing from the Wilcox sand. It made 1,192 bbls. for the 24 hours ending Monday at 7 a. m. Sand on the Denker well was 4,446-74 feet with a total depth of 4,476 feet. The rapid decline of the Garber wells do much to strengthen the crude market, which was displaying weakness last week due to the two cuts in Pennsylvania crude.

To date there have been three wells completed in the Wilcox sand in the Garber Field and only one of them has displayed any lasting qualities. The new Wilcox wells are half a mile to the northwest from the discovery well, Sinclair's No. 25 Belveal. The next week should do much to determine the future of the field.

Important Discovery in Comanche

The other important feature of the news of last week was the discovery of a pay sand in a wildcat well in Comanche County. The new find is George Hanbury's No. 1 Munson, SE cor. SW SE NE Section 30-2n-9w, 10 miles northwest of the Duncan Field. The Hanbury well found the pay sand at 2,005 feet and started off flowing 35 bbls. an hour. It has decreased to 25 bbls. an hour at present. The American Pipe Line Co. of Texas is laying 10 miles of line from the Duncan Field to the new well. The Hanbury well is flowing by heads at intervals of an hour. It has 63 feet of open hole.

Two miles south of the Hanbury well the Gladys-Belle Oil Co. found production at a depth of 1,600 feet three years ago. This field might be said to be a monument to the memory of the late Grant C. Stebbins, who drilled the first wells there. The Gladys-Belle Co. is reported to have disposed of its acreage around the well some time ago.

Renewal of Holdenville

Interest in the Holdenville Pool in Section 35-8-8, Hughes County, was revived last week when J. W. McCullough's No. 2, NE cor. SW Section 35, was completed. The wells on the McCullough lease have been delayed due to the heavy flow of gas that has impeded operations. The No. 2 found 35,000,000 feet of gas in the sand topped at 3,263 feet, and at a depth of 3,279 feet the well flowed at the rate of 20 bbls. an hour. Its flow has increased to 35 bbls. an hour. This will cause a revision of the opinion of the pool and may result in some more wells in the southwest part of the pool being completed.

In the Tonkawa Field, two deep sand well have been completed. Wentz Oil Corp.'s No. 2 Mahoney, SE cor. Section 28-25-1w, had the top of the sand 4,210 feet and was drilled to 4,220 feet. It started flowing at the rate of 125 bbls. an hour and the gauge for the first day's production was 1,970 bbls. The other deep sand well to be completed was Comar Oil Co.'s No. 17 Beverlin, NW cor. NW Section 34-25-1w, which had the top of the sand 4,188 feet, oil at 4,202 feet, and a total depth of 4,266 feet. It had an initial production of 75 bbls. an hour. The production for the first day was 1,750 bbls.

Old Fields Show Up Well

Two old oil fields that have been performing in good style are the Bald Hill district and the old Deaner Pool. In the Bald Hill territory the Papoose Oil Co. has been steadily drilling in some Wilcox wells of good size. At present there is almost 3,000 bbls. of Wilcox sand production in the region. In the Deaner Pool, the Windsor Oil Co., a vehicle of Deaner & Jamieson, has been completing wells that have splendid initial production. Their latest is No. 3 Grayson, which is the largest well in the pool. It had the sand 2,625-37 feet and started off flowing at the rate of 850 bbls. It was deepened to 2,640 feet and flowed 1,250 bbls. the next day.

In Canadian County, the rig is up for a wildcat well. A. D. Spears and others have built a 125-foot combination derrick. The well will be drilled SW cor. NE Section 20-14-6w, on a structure worked out by Becker & Gary, geologists, of Oklahoma City.

A list of some of the oil fields of Oklahoma giving the production by leases and the number of wells follows. These figures show the daily average production for the week ending Wednesday, August 12.

TONKAWA

Company—	No. of Wells	Av. Daily Prodn. Bbls.
Amerada Pet. Co.	39	1,536
Blackwell Oil & Gas Co.	33	1,016
Carter Oil Co.	4	75
Champlin Ref. Co.	3	24
Comar Oil Co.	378	25,792
Mid-Continent Oil Co. & Marland Oil Co.	17	1,573
Gypsy Oil Co.	109	7,289
Healdton Oil & Gas Co.	27	738
Wentz Oil Corp.	50	5,219
McMann Oil Corp.	2	183
Pennok Oil Co.	32	1,220
Phillips Pet. Co.	3	58
Prairie Oil & Gas Co.	12	429
Sinclair Oil & Gas Co.	1	9
T B Slick & Comar Oil	38	1,865
Southwestern Pet. Co.	15	486
The Texas Co.	9	5,031
White Eagle Oil & Ref. Co.	7	118
Louis Friedman and others	1	51
Total	780	52,710

TONKAWA DEEP SAND ONLY

Company—	No. of Wells	Av. Daily Prodn. Bbls.
Amerada Pet. Co.	8	871
Pennok Oil Co.	7	552
Comar Oil Co.	51	18,335
Gypsy Oil Co.	16	3,750
T. B. Slick	7	816
Blackwell O. & G. Co.	3	345
Wentz Oil Corp.	8	4,204
The Texas Co.	5	4,979
Phillips Pet. Co.	1	20
McMann Oil Corp.	1	85
Mid-Continent & Marland Oil	1	1,416
Louis Friedman and others	1	51
Total	109	35,424
Total oil produced in deep sand to date		23,132,966

BURBANK FIELD

Company—	No. of Wells	Av. Daily Prodn. Bbls.
Lewis Oil Co.	8	996
Carter Oil Co.	272	9,003
Comar Oil Co.	7	90
Devonian Oil Co.	16	142
Gypsy Oil Co.	194	3,061
Kewanee Oil & Gas Co.	25	287
Laurel Oil & Gas Co.	16	138
Lorraine Pet. Co.	15	92
Midland Oil Co.	37	816
Mid-Kans Oil & Gas Co.	40	1,223
Peters & Oliphant	2	110
Phillips Pet. Co.	168	11,058
Phillips Pet. Co. & Delmar Oil Co.	16	1,289
Phillips Pet. Co. & Skelly Oil Co.	178	3,176
Prairie O. & G. Co.	119	4,318
Producers & Refiners	29	348
Roxana Pet. Co.	54	649
Simons & Moore	29	268
Sinclair Oil & Gas Co.	144	2,094
Skelly Oil Co.	24	827
Tidal-Osage Oil Co.	43	581
The Texas Co.	16	1,029
Twin State Oil Co.	24	609
Mid-Continent Oil Corp.	106	1,668
Total	1,582	43,872

KAY COUNTY EXTENSIONS

Company—	No. of Wells	Av. Daily Prodn. Bbls.
George Bole	3	272
Carter Oil Co.	11	1,048
Comar Oil Co.	19	1,122
Mid-Continent Pet. Co.	16	1,026
Gypsy Oil Co.	10	265
Laurel Oil & Ref. Co.	5	175
Mid-Kansas Oil & Gas	10	829
Phillips Pet. Co.	32	2,630
Prairie Oil & Gas Co.	4	153
Pure Oil Co.	5	285
Roxana Pet. Co.	8	227
Dye & Tomlinson	8	515
Skelly Oil Co. & Phillips Pet.	21	384
Sinclair O. & G. Co.	5	196
The Texas Co.	16	281
Twin State Oil Co.	15	852
Total	197	10,261

NORTH BRAMAN POOL

Company—	No. of Wells	Av. Daily Prodn. Bbls.
Comar Oil Co.	18	2,223
White Eagle Oil Co.	1	41
Gypsy Oil Co.	1	30
Total	20	2,294

SOUTH BRAMAN POOL

Company—	No. of Wells	Av. Daily Prodn. Bbls.
Herbert Oil Co.	2	5,262
Comar Oil Co.	6	12,518
Shawver and others	1	55
Total	9	17,835

HUBBARD POOL

Company—	No. of Wells	Av. Daily Prodn. Bbls.
Marland Oil Co.	18	1,719
Mutual Oil Co.	1	60
Prairie O. & G. Co.	10	637
Total	29	2,416

WATCHORN POOL

Company—	No. of Wells	Av. Daily Prodn. Bbls.
Watchorn Oil & Gas Co.	10	2,121
Magnolia Pet. Co.	8	4,240
Total	18	6,361

THOMAS POOL

Company—	No. of Wells	Av. Daily Prodn. Bbls.
Twin State Oil Co.	1	710
Marland Oil Co.	2	3,257
Carter Oil Co.	1	56
Total	4	4,023

Hughes County

The first good news from the Holdenville Pool, Hughes County, was occasioned by the drilling in of J. W. McCullough's No. 2, NE cor. SW Section 35-8-8, a diagonal offset to the Gypsy Oil Co.'s No. 1 Proctor, the discovery well in the pool. The wells on the McCullough lease have been delayed by the heavy flow of gas that has been encountered and the completion of a good well will do much to bolster up the spirit of the operators.

McCullough's No. 2 had the top of the sand at 3,263 feet with 20,000,000 feet of gas. The well was finally drilled past the gas and at 3,283 feet it made 20 bbls. an hour.

South of the Papoose Pool in Hughes County, the Douglas Oil Co. will drill

New Mexico Field Operations

By Staff Correspondent

ARTESIA, N. Mex., Aug. 15.—Eighty acres of State land, being the E of the SE of Section 32-17-28, sold at public auction at Carlsbad, brought $8,000 in addition to the expense of the sale. This property, which is in the north extension of the Artesia Pool, was purchased by W. H. Workman and associates, of El Dorado, Ark. Several other blocks scattered to the north of the field were retained by the State, no bids being received. A large amount of acreage on which rentals have lapsed, will be sold within the next few months.

Four more producers were added to the field during the week. Flynn, Welch & Yates completed their No. 21 in the SW of the SW of Section 21-17-29. This well, while not as spectacular as the No. 13, will rank in the same class as a producer. Twenty-eight feet of sand was found from approximately 2,065 to 2,098 feet. The first flow of the well, 175 bbls, was made in eight hours. In an 18-hour run, 230 bbls. were put into the tank, and when cleaned out the well should be good for 400 bbls.

Shortly after the completion of this producer, the gas was ignited from the boiler, destroying the rig, setting fire to the well, which was extinguished eight hours later.

In the same neighborhood the Maljamar Oil & Gas Co. is preparing to shoot No. 7, which from all indications is one of the largest wells in the field, 30 feet of sand having been encountered. This company's No. 8 is also on top of the pay and will be drilled in within a few days.

Two nice wells have been added by the V. K. F. Oil Co., in Section 17-18-28. These operators have been very successful in this field, and attracted attention several years ago by drilling the discovery well in the now famous Smackover Pool. The new producers are Nos. 2 and 3, both of which have encountered two pay horizons the same as in No. 1. The first sand in No. 2 was struck at approximately 2,000 feet, while in No. 3 it was picked up from 2,023 to 2,033 feet, showing a slight dip to the east. Five more locations have been made on this property and will be drilled immediately, a central power plant having been erected.

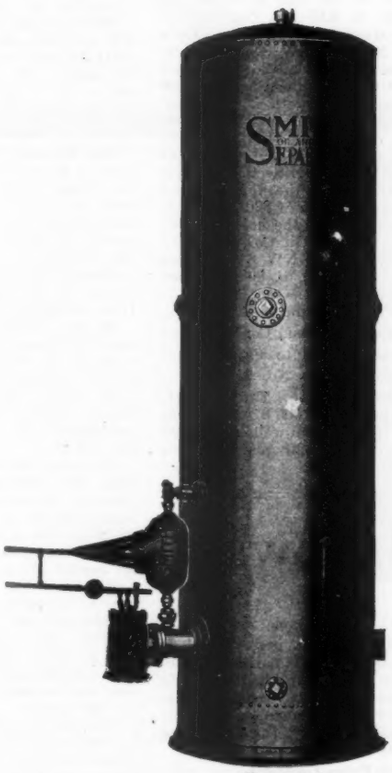
West of the V. K. F. holdings, the Ohio Oil Co.'s No. 2 on the C. J. W. acreage is standing with 1,700 feet of fluid in the hole, and is expected to be a good producer when shot. One mile south of the present producing area, the Mesa Oil Co.'s No. 1, located in the NW of the NW of Section 4-19-28, has picked up 1,000,000 feet of gas at 700 feet. This gas is being utilized and is sufficient for a number of boilers.

To the north of the proven area a shallow gas well was also encountered in No. 1 William Keely, in Section 26-17-29, at a depth of 450 feet. Slush and rock were blown over the top of the derrick for 45 minutes, until shut off by a cave.

Of considerable importance to this field is the report that in line with its policy to build up a refining and marketing as well as a producing organization, the Ohio Oil Co. has acquired property in Dayton, N. Mex., and will build a

(Continued on Page 135)

Pays Three Ways



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No. 2—Capacity 2,000 bbls. oil, 5,000,000 cu. ft. gas.

No. 3—Capacity 500 bbls. oil, 1,000,000 cu. ft. gas.

No. 4—Capacity 1,500 bbls. oil, 15,000,000 cu. ft. gas (300 lbs.)

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a well SW cor. SE Section 14-9-9. The rig is on the ground.

In the Yeager Pool in Hughes County the Dixie Oil Co.'s No. 1, NW cor. NE SE Section 18-8-10, had the sand 3,285-91 feet. It made 60 bbls. on the swab and the last two feet drilled showed water. It will be plugged back. The Independent Oil & Gas Co. and others' No. 1, CSL SW SE SE Section 18-8-10, had a total depth of 3,865 feet. The casing was being shot off in preparation to plug the well when it flowed from what is thought to be the Gilcrease sand. It is being cleaned out. The Carter Oil Co. has a failure in No. 3, NE cor. NE Section 19-8-10, at a depth of 1,900 feet. The well is abandoned.

In the Holdenville Pool Waite Phillips Co.'s No. 1, NW cor. NE SE Section 35-8-8, is dry and abandoned at 3,320 feet. Number 2, SW cor. NE SE Section 35-8-8, is dry and abandoned at 3,040 feet. McCullough and others' No. 3, SE cor. NE SW Section 35-8-8, is dry and abandoned at 3,293 feet. Roxana Petroleum Corp.'s No. 2, NE cor. NW SE Section 35-8-8, is dry and abandoned at 3,320 feet. Roxana Petroleum Corp.'s No. 1, SE cor. NE NW Section 35-8-8, is drilling at 3,314 feet.

North of the Papoose Pool the Kingwood Oil Co. drilled a dry hole on the structure that has been yielding such a lot of gas production. It is No. 1, SE cor. SW NW Section 16-10-9, Okfuskee County, and is abandoned at 3,336 feet. Jennings Brothers and others' No. 3, SW cor. SE SW Section 33-10-9, is still producing 100 bbls. from sand 3,087-94 feet. It will be drilled deeper. Atlantic Oil Prdducing Co. and others are drilling below 540 feet in No. 1, NE cor. SE SW Section 1-9-9, Seminole County. Carter Oil Co. and Sands Petroleum Co.'s No. 1, NW cor. SE Section 1-9-9, had the top of the sand at 2,745-68 feet with 1,200 feet of oil in the hole. The 8-inch casing is set in the sand and is causing some confusion. It is not completed. The Indian Territory Illuminating Oil Co.'s No. 2, SW cor. NW SW Section 1-9-9, had the top of the sand 3,383-3,405 feet and made 129 bbls. after a shot of 2 quarts. It is being cleaned out. Indian Territory Illuminating Oil Co. is rigging up No. 7, SE cor. NE SW Section 1-9-9.

Phillips Petroleum Co.'s No. 5, CSL SE NE SE Section 3-9-9, had the top of the sand 3,284 feet and is fishing for tools. The well is making 3,000,000 feet of gas and spraying oil. Amerada Petroleum Corp. and Robinson's No. 8, NE cor. NW Section 4-9-9, had sand at 3,298-3,306 feet and made 635 bbls. the first day. It is now drilling in a break at 3,308 feet. Harris & Hays' No. 1 CSL SE SE Section 13-9-9, had sand 2,955-65 feet with 3,000,000 feet of gas and it is drilling at 3,000 feet.

South of the Papoose Pool the Minnehoma Oil Co.'s No. 1, SW cor. NW Section 23-9-9, had the top of the sand 3,320-26 feet, dry gas 3,349-53 feet, show of oil 3,358-76 feet, and a hole full of water 3,381 feet. It is dry and abandoned.

New Wells in Davenport

In the Davenport region, Lincoln County, three new wells add slightly to the production of the pool. The Prairie Oil & Gas Co. completed a very light well on the west edge of the Kitty Stout lease, the NW quarter of Section 3-14-5. Three new locations some distance from the producing limits of the pool will do much to determine the future of this territory.

The Indian Territory Illuminating Oil Co. has made a location for No. 1, SW cor. SW Section 20-15-5. The Magnolia Petroleum Co. has completed a well making 200 bbls. in No. 4, SE cor. SW SW Section 34-15-5. Sand was at 3,43?-51 feet and the well was given a shot of 30 quarts. The Magnolia Petroleum Co.'s No. 4, SE cor. SW SE Section 34-15-5, is drilling at 500 feet.

The Independent Oil & Gas Co.'s No. 1, SE cor. NE SE Section 6-15-6, had sand at 4,021-22 feet and is making 130 bbls. a day. It is not completed. Texas Co.'s No. 2, NE cor. SW SW Section 2-14-5, had sand at 3,309-67 feet and made 565 bbls. the first day after a shot of 100 quarts. It is now flowing 685 bbls. The Texas Co.'s No. 4, NE cor. SW SW Section 2-14-5, is spudded.

Magnolia Petroleum Co. has completed No. 1, SE cor. NE NE Section 3-14-5. Sand was at 3,374-3,449 feet and the well had an initial production of 709 bbls. natural. Prairie Oil & Gas Co.'s No. 8, NW cor. NW Section 3-14-5, is estimated at 20 bbls. A gas engine is being set to pump. It is not completed.

Prairie Oil & Gas Co. has a rig on the ground for No. 10, SE cor. NW Section 3-14-5. Shaffer Oil & Refining Co. has spudded No. 1, NE cor. NE Section 10-14-5.

Seminole County

There was little news from Seminole County last week. One light well in the deep sand is recorded and one dry hole. A couple of wells are to be deepened to the lower horizon that was found in the Magnolia well.

Independent Oil & Gas Co. is drilling at 640 feet in No. 1, NW cor. SW NW Section 8-9-8.

Magnolia Petroleum Co. has a duster in No. 1, SW cor. NE Section 12-8-7. It is abandoned at 3,474 feet. Magnolia is fishing for tools at 3,337 feet in No. 1, SE cor. SE Section 30-8-8. This is an old well drilled deeper. W. R. Ramsey is preparing to deepen an old well, No. 1, NE cor. SE SE Section 31-8-8. Old total depth is 3,290 feet. Magnolia Petroleum Co. has completed a deep sand well in No. 4, SW cor. NW SW Section 32-8-8, an old well drilled deeper. Sand was 4,020-54 feet, total depth 4,068 feet. First oil was found at 4,025 feet, and water at 4,068 feet. The well was plugged back to 4,054 feet and is good for 18 bbls. Magnolia Petroleum Co.'s No. 3, SW cor. SE NW Section 33-8-8, is to be drilled deeper. Old total depth is 3,360 feet.

Carter County

The Brock Pool in Carter County furnishes the chief spot of interest in that county at present. The Amerada Petroleum Corp. is building up a nice production at shallow depths in this field which offers a splendid operating condition.

In the Brock Pool the Amerada Petroleum Co. has completed two wells and is rigging up a third. Number 4, CEL NE NW NW Section 28-5s-1e, had the sand 1,323-30 feet and is a 25-bbl. pumper. Number 9, CNL SE NW Section 28-5s-1e, is good for 45 bbls. on the pump from sand 1,230-38 feet. Number 10, CSL NW SW NE Section 28-5s-1e, is being rigged up with standard tools.

The Carter Oil Co.'s No. 4, NE cor. SE NW Section 17-1-3w, Sholom Alechem Pool, had the top of the sand at 1,726 feet, and a total depth of 1,736 feet. It is swabbing 60 bbls. The Humbel Oil Co. has completed No. 1, NW cor. NW Section 19-1s-3w. It had a total depth of 3,802 feet, and was plugged back to sand at 2,993-3,005 feet. It is making 50 bbls. on the pump. The Magnolia Petroleum Co. is building a rotary rig for No. 1, SW cor. NW SE Section 19-1s-3w. Wirt Franklin is putting up a rotary rig for No. 2, NW cor. SW NE Section 22-2s-3w, Fox district. Twin State Oil Co. has the rig up for No. 1, SE cor. NE NW Section 22-2s-3w. Magnolia Petroleum Co. is building a standard rig over an old well to be drilled deeper in No. 5, SW cor. NE Section 23-2s-3w. Magnolia Petroleum Co.'s No. 9, CSL NE NW SW Section 24-2s-3w, had the sand 2,201-26 feet, and swabbed 220 bbls. the first day and 120 bbls. the second day. It is not completed. Number 10, C NW SW Section 24-2s-3w, is drilling at 2,153 feet with 1,500 feet of oil in the hole. Coline Oil Co.'s No. 1, SW cor. NE Section 7-2s-2w Graham district, had the top of sand 1,812 feet, total depth 1,820 feet. It has 1,000 feet of oil in the hole and will be swabbed. Humble Oil Co. has a dry hole in No. 3, NE cor. NW SW Section 32-2s-3w, Fox district. It is abandoned at 2,921 feet.

Payne County

The Magnolia Petroleum Co. has added another producing well to Payne County's production. It is No. 1, SE cor. NE SW Section 8-19-5, Yale district, which had the sand 3,009-31 feet, total depth 3,034 feet. The well made 120 bbls. after a shot of 20 quarts. It is completed.

The Texas Co. has spudded No. 1, NW cor. NE NE Section 17-19-5.

The Josey Oil Co.'s No. 7, SW cor. SE SE Section 35-19-5, topped sand 3,360 feet and is drilling in sand at 3,384 feet. The well flowed 108 bbls. the first 24 hours and 117½ bbls the second 24 hours. It is not completed. Josey Oil Co.'s No. 1, NW cor. SW Section 1-18-5, North Cushing Field, had a total depth of 3,631 feet and was plugged back to 3,583 feet and shot with 20 quarts. It made 30 bbls. the first day and 12 bbls. the third day after the shot. It is not completed. Shaffer Oil & Refining Co.'s No. 14, CWL NW NE NE Section 2-18-5, had sand 3,378-3,417 feet. It was shot with 5 quarts and made 200 bbls. the first 24 hours. It is being cleaned out and is not completed.

Pawnee County

In the Mannford district, Pawnee County, R. E. Freeman and others' No. 2, CSL SW NE NW Section 17-21-7, had the Peru sand at 2,373-2,400 feet with 1½ bailers of oil an hour. The Skinner sand was found 2,460 to 2,489 feet with 500,000 feet of gas. The well is drilling at 2,580 feet.

Mid-Continent Petroleum Co.'s No. 13, SW cor. SW Section 16-20-7, had sand 2,641-55 feet and was given a shot of 10 quarts. It is standing with 1,000 feet of oil in the hole and will probably be shot again, this time with 20 quarts.

Osage Developments

The Burbank Pool offers the completions to maintain the daily production of the Osage Field. The Phillips Petroleum Co. has completed several good wells in this field. The old Atlantic Pool around Township 25-8 contributes a few new operations.

Sinclair Oil & Gas Co. has a dry hole in No. 1, NE cor. SW Section 6-27-7. It is abandoned at 3,615 feet.

In the Atlantic Pool there are three new operations, Continental Oil Co. has a rig up for No. 1, SE cor. SW Section 5-25-8; Atlantic Oil Producing Co. has a rig up for No. 5, CSL NW NE SW Section 19-25-8, and Lewis Oil Co. has spudded No. 5, CSL NW SW SE Section 29-25-8.

Barnsdall Oil Co. has spudded No. 9, CSL NE Section 11-24-10, Pawhuska district. Western American Oil Co. has completed No. 9, NE cor. NE Section 28-24-10, for a 10-bbl. well. Sand was 839-852 feet and the well was shot with 60 quarts. It may be deepened. Peters and others' No. 10, CSL NW SE NE Section 33-24-10, had the Cleveland sand 1,382-1,400 feet and was shot with 80 quarts. It is good for 15 bbls. Number 2, CWL SW NE Section 32-24-9, had the Bartlesville sand at 2,094-2,161 feet and is making 25 bbls. after a shot of 100 quarts.

The Meridian Petroleum Co. is drilling at 450 feet in No. 6, C N half NW NW Section 18-22-9, Hominy district. Tidal-Osage Oil Co.'s No. 21, CSL SW SW Section 27-22-10, Wild Horse district, is a light well in the Bartlesville sand, 1,894-1,928 feet, total depth 1,932 feet. The well had a show of water in the bottom and was plugged back to 1,930 feet and shot with 100 quarts. It is producing 12 bbls. The Kewanee Oil & Gas Co. is drilling at 1,250 feet in No. 1, NW cor. SE Section 4-22-11.

Burbank Completion

The following wells in the Burbank Pool are completed: Phillips Petroleum Co.'s No. 4, SE cor. SE Section 2-27-5, had top of sand at 2,918 feet, total depth 2,982 feet. It was shot with 120 quarts and did 227 bbls. the first 16 hours. Number 7, CSL NW SE NW Section 12-27-5, had top of sand at 2,955 feet, gas at 2,975 feet, total depth 3,020 feet. The well made 100 bbls. naturally and 200 bbls. after a shot of 140 quarts. The Prairie Oil & Gas Co.'s No. 6, CNL NW NE SE Section 12-27-5, had top of the sand 2,955 feet, oil and gas 2,983 feet, total depth 3,019 feet. The well was good for 100 bbls. naturally and was given a shot of 17 quarts which made it a 150-bbl. well. Number 8, CEL SE NE SE Section 12-27-5, had top of sand at 2,938 feet, oil and gas at 2,962 feet, and a total depth of 3,009 feet.

(Continued on Page 128)

Kansas Oil Field News

By J. L Dwyer

In the Kansas oil fields last week, the Roxana Petroleum Corp.'s No. 1 Rutter, SW cor. SE SW, Section 21-33-2 in Sumner County, 5 miles due west of the great Rainbow Bend Pool furnished the big excitement. This well topped what is thought to be the Burbank sand at 3,300 feet and the hole filled up 1,000 feet with oil. It was given a shot of 30 quarts and the sand was drilled through. While the new well is not in the gusher class it proves the existence of the sand in this region, and will probably be the forerunner of a lot of development.

Sumner County has been in the limelight for a long time, and many of the prominent geologists of the Mid-Continent Field have predicted a good future for it. The Padgett area has been quite active recently and may be found productive.

No wells were completed last week in the Rainbow Bend Pool in Cowley County. The owners have evidently decided upon a policy of cleaning out and shooting the oldest wells which have been more or less neglected thus far in their productive life. There are eight strings of cleanout tools working in the field and several of the older wells have been given light squibs with good results.

An important completion in northeastern Greenwood County is the new well of the Skelly Oil Co.-Phillips Petroleum Co., No. 1 Morris, NE cor. SE, Section 20-23-9. This well is 1½ miles east of the Scott discovery well and one-half mile south of production in the Teeter Pool. The Skelly-Phillips No. 1 Morris had the sand at 2,536-63 feet and has 1,000 feet of oil in the hole. The well is being drilled deeper at present and is estimated at 200 bbls. It is the first successful effort to link up the Scott and the Teeter pools in Greenwood County, and will very likely cause quite a bit of prospecting in all directions from the present limits of production.

Aid From Geologists

In a very quiet but very thorough manner the Kansas Geological Society has undertaken an important step for the benefit of the oil producers of the State. It has established a well log bureau, which will function with the cooperation of all the oil companies in the State. The newly formed bureau is in charge of George H. Bruce formerly of the geological department of the Empire Gas & Fuel Co. It will endeavor to collect logs of all wells being drilled in the State of Kansas and will furnish these logs to the companies subscribing to the service. The bureau at present has 26 subscribers and it is estimated that 50 more are needed for the proper operation of the bureau.

In Cowley County the wildcat well of T. B. Slick No. 1 Buzzi, SW cor. SW NE, Section 8-35-4, found a broken sand at 3,768-3,802 feet. This is thought to be the Wilcox sand and its location in this part of Cowley County is very important. The Slick well has about 2,500 feet of fluid in the hole, which showed 85 per cent water.

The old Winfield Pool in Township 32-5 is being watched for the chance of an extension to the east. The J. A. Hull Co. has completed No. 9 Wallace, NW

(Continued on Page 132)

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Gulf Coast Oil Operations

By P. L. McGreal

Decline in production from Gulf Coast continues. South Liberty and Hull pools having greatest decrease. Small increase in southwest fields, chiefly due to Luling. Gayle & Wood's No. 1 Feltz, Boling Dome, is commercial producer at 420 feet. Activity in Southern Louisiana market during the week.

HOUSTON, Tex., Aug. 17.—The daily average gross production in the Gulf Coast region is declining rapidly, a loss of 2,014 bbls. per day being recorded for the 7-day period ending August 15. The estimated gross for all the 23 pools is placed at 99,893 bbls. per day. The Texas pools are credited with a daily average of 90,243 bbls. and those in South Louisiana with 9,650 bbls. The marked declines are in the South Liberty and Hull districts.

The pools have been declining since the last week in July. May was the banner month in the Coastal region, with a daily average of 110,841 bbls. January was the low month, with a daily average of 73,666 bbls. The South Liberty Pool was opened January 1, last. During June the daily average fell off to 106,958 bbls. per day and in July it was 106,554 bbls. per day.

May was the big month in the South Liberty Pool with a daily average of 21,651 bbls. The Hull Pool was credited with a daily average of 25,399 bbls. during May. The daily average for June in the South Liberty district was 20,220 bbls. and 19,984 bbls. during July. In the Hull Pool the June average was 21,292 bbls. and in July 19,742 bbls.

The declining output should check any further contemplated reductions in creditbalance qotations. The readjustment of railroad rates, however, on crude and other articles from Oklahoma, Arkansas, North Texas and North Louisiana to Texas Gulf ports will have a tendency to operate against Coastal crudes. The lowered rail rates means more competition from crudes to the north, especially Smackover, and the Laredo districts to the southwest. There is a lot of royalty oil in the Gulf Coast, which has been held off the markets by wealthy landowners. They say they will continue to store it, rather than sell it on the declining market.

Daily Average Production

The estimated daily average production in each district for the week ending August 15, is as follows:

District—	Gross Bbls.
Batson	1,800
Blue Ridge	765
Barber Hill	100
Big Creek	1,070
Dayton	48
Damon Mound	1,160
Edgerly (La.)	485
Goose Creek	9,900
Humble	4,450
Hull	18,500
High Island	550
Jennings (La.)	795
Lockport (La.)	120
Markham	75
Orange	16,500
Pierce Junction	410
Spindletop	1,115
Saratoga	1,610
Sour Lake	4,260
South Liberty	16,450
Vinton (La.)	8,170
Welsh-Anse La Bute (La.)	80
West Columbia	11,370
Miscellaneous	110
Total	99,893

An increase of 895 bbls. is noted in the gross production of the Sothwest fields for the week ending August 15 compared with the previous 7 days. Most of it is in the Luling district. The high point in the output of the Luling Field for the year to date was in January, when it registered a daily average of 30,720 bbls. The low was during July with an average of 22,990 bbls. per day.

The estimated gross daily average for the week under review in each field is as follows:

District—	Gross Bbls.
Luling	23,375
Laredo	4,560
Somerset	2,600
Callihan	290
Rockdale-Minerva	780
Jim Hogg County	3,800
Lockhart	10,910
Total	46,315
Grand total for week	146,208
Grand total last week	147,417
Decrease	1,209

Wildcats Abandoned

In Fort Bend County, the Gulf Production Co. quit No. 4 Moore at Orchard Dome, northwest of Rosenburg at 1,780 feet. It was a formation test. The Marland Oil Co. quit No. 4 Lockwood in the same county at 1,050 feet. The Gulf Production Co. abandoned No. 2 Thomas at Fanette, Jefferson County, at 993 feet. The two latter were also formation tests. These tests followed exploration work by the seismograph and Torsional balance method of locating saline domes. Other formation tests will be made around the same locations by the companies named.

At what is known as Doling Dome in Wharton County, near the junction of Fort Bend and Brazoria Counties, Gayle & Weed's No. 1 Feltz produced from a cap rock formation at 420 feet. Its initial output was 60 bls. but it soon settled down to a 20-bbl. well. It is about 1 mile from a deep test—No. 1 Felder—drilled by the Gulf Production Co. to 4,750 feet and recently abandoned. The Gulf, Humble and Texas companies have been drilling around the dome for about 1 year. The well on the Feltz is the first commercial production developed there. The well is on a sub-lease from the Gulf Production Co. Practically all the likely looking acreage on and around the dome has been under lease for more than 1 year. This precludes any extensive drilling campaigns, such as has followed the development of oil around a new Coastal dome in past years. As a result of this condition the wildcat well is attracting but little attention among operators.

Speaking of domes and the future possibilities it can be said that such extensive drilling as has characterized the past years in the Gulf Coast Plains region will not be witnessed in the future. Not unless some wildcatter should be "hit by lightning" and find production where nobody anticipated it. Practically all the present known prospects are covered by the major companies and the chances for the little fellow getting in except on a sub-lease are nil. Whether such a condition of affairs is good or bad for the industry depends upon the viewpoint of the individual. One can hear expressions of opinions from both sides. The small operator, whether an individual or a little company, will tell you that the major companies are "hogging things." Officials of the large corporations say they are trying to prevent wasteful drilling and thus stabilize production and prices.

South Louisiana

The South Louisiana parishes present a better opportunity for the wildcatter who wants to play around saline domes. Much more territory is available there.

In Iberia Parish, at Jefferson Island, the United Oil & Gas Syndicate's No. 1 Bryless & Jones is drilling around 3,400 feet. Its No. 1 Fannie Loughridge is at 1,300 feet.

In Cameron Parish, the Roxana Petroleum Corp. is drilling formation tests in the Johnson Bayou section in the southwestern part of the parish. The Yount-Lee Oil Co. is drilling No. 8 at Hackberry Island.

Calcasieu Parish is very attractive. The Vinton and Edgerly Pools are in this parish. In the southern part, the Pure Oil Co. is drilling No. 2 Sweet Lake. Same company is drilling below Sulphur. The Rycade Petroleum Corp. is drilling No. 1 Calcasieu at 4,020 feet and No. 1 Hooks at Lake Arthur at 510 feet.

In the Lockport semi-pool, west of Lake Charles, the Vacuum and Gulf jointly have seven rigs running. Joint No. 1-B Phoenix is reaming below 5,590 feet, the deepest hole in the southern parishes. No. 1-C Phoenix is around 4,000 feet. No. 2 Farquhar is at 3,595 feet. No. 1 Freiberg and Wolf is around 2,135 feet. No. 3 Miller is deepening at 4,105 feet and No. 4 Miller is rigging at 3,410 feet. No. 3 Moore is around 350 feet. No. 1 Prien Lake is rigging to start.

In St. Martin Parish, the Ohio Oil Co.'s No. 1 Champagne is below 3,255 feet.

In Jeff Davis Parish, W. F. Kennedy is preparing to start a test on Serpentine Bayou on a 9,000-acre lease. The Yount-Lee Oil Co. has started No. 2 Welsh Land Co.

In Sabine Parish, the Toro Petroleum Co.'s No. 1 Wyatt is around 1,500 feet. Emlett Oil Co.'s No. 5 Bowman is deepening at 2,670 feet and No. 6 is shut down at 550 feet.

A very deep test is drilling in the old Houme gas district in Terrebonne Parish, 45 miles southwest from New Orleans.

Texas Coastal Counties

Tests now attracting attention in the Texas Coastal region, in addition to those mentioned, are the Retreive Oil Co.'s No. 1 Westheimer, 7 miles north of Houston, on the Humble highway, and C. T. Rucker's No. 1 Fisher, 7 miles east of the Goose Creek Pool, but over in Chambers County. The first named is reaming to set casing and bail a sand cored around 2,825 feet that showed oil. The Rucker test cored a sand at 2,250 feet and is preparing to set and test.

In Brazoria County, Moose and others have a location for No. 1 located 6 miles west of Angleton.

In Fort Bend County, The Texas Co.'s No. 1 Armstrong, southwest of Needville, is drilling around 3,123 feet. The Rycade Petroleum Corp.'s No. 2 F. Meier is at 1,655 feet and No. 4 Mash is around 1,535 feet in anhydrite. A location has been made for No. 2 J. Meier. The Marland Oil Co.'s No. 1 Moore and No. 4 Davis at Long Point, between Goose Creek and Damon Mound.

In Harris County, The Texas Co.'s No. 4 Warren at Hockley is drilling below 2,235 feet. Same company is drilling its fifth formation test on the Magee land on Green Bayou, opposite its Camp Beaty, maintained for employes. The Rycade Petroleum Corp.'s No. 1 Norsworthy on the Mechanic Street road in the Green Bayou section, is drilling below 2,700 feet. Bancroft and others' No. 1 Haney, north of Goose Creek, is around 500 feet. Baine & Quinn's No. 1 Hunt in the same locality, is around 1,400 feet and Wright and others' No. 1 Hunt is shut down at 1,500 feet on account of lease litigation. Material for a derrick for No. 2 Hunt is on the ground.

In Hardin County, The Texas Little Farms Assn.'s No. 1 Hawley, near Grayburg, is around 2,000 feet and Hooks and others' No. 1, northeast of Saratoga, is around 1,100 feet.

In Jefferson County, the Gulf Production Co. is rigging No. 3 Thomas at Fannette. The Houston Oil Co.'s No. 1 Crow at Big Hill Dome is drilling around 1,355 feet. John Walton and associates, of Oklahoma City, have a location on the Gilliland tract near the old Spindletop Pool. The Houston Oil Co. is starting No. 4 Davis.

In Jackson County, the Houston Oil Co. has started drilling No. 1 Rogers at Horseshoe Lake. The Jackson County Syndicate's No. 2 Faqua is drilling around 2,200 feet. No. 1 Classen just spudded in. The Vanderbilt Petroleum Co.'s No. 1 Seliner is also shut down. The Humble Oil & Refining Co. is drilling a formation test on the Schwind, north of Francitas.

In Liberty County, the Liberty County Production Co.'s No. 1 Seaberg has been spudded in. The Old Colony Oil Co. has started No. 9 West Liberty Oil Co. lease.

In Montgomery County, L. F. Sprague of Hartford City, Ind., is drilling No. 2 located 4 miles west of Willis, at 2,910 feet, with some gas showing.

In Matagorda County, the Gulf Production Co. is making its second formation test on the Craig land at Hawkinsville. The Shepherd Dome Oil Co.'s No. 9 Hawkins is around 2,000 feet.

In San Jacinto County, the Proletarian Diamond Oil Co. is starting No. 1 on the Vick, Block 22 of the Laorintz survey.

In Grimes County, McClausland & Rassmussen's No. 1 Dodd, 4 miles west of Iola, is still fishing with a boulder in the hole. The bottom of the hole is around 3,860 feet.

Operations in the Pools

New production for the week in the pools was only 1,660 bbls. with 20 wells completed, 4 of which were dry and 5 bailed salt water, but still may become producers. The most important test is the Peer Oil Co.'s No. 1 Hamilton, one-half mile south at 3,199 feet, or at a higher level than the other wells on the south-southwest side of the dome. Casing was set and cemented and the hole will be drilled in and bailed early in the coming week. The Hamilton Oil Co. abandoned a test 800 feet from the Peer location 2 years ago as a failure, but it was not drilled to the Peer level. The most southerly producer in the pool is the Humble Oil & Refining Co.'s No. 1-A Deussen, brought in early this month as a small well. The Gulf Production Co. has 400 acres to the north and east of the Peer test. The Humble Oil & Refining Co. has 71 acres to the south and the Associated joins it with 19 acres.

Week's Work

The following table gives the results of the week's work in brief:

District—	Comp.	Prod.	Dry	Stw.	Bail.
Batson	3	15	0	1	0
Big Creek	1	50	0	0	0
Goose Creek	1	0	0	1	0
Hull	2	200	0	0	2
Jennings	2	0	2	0	0
Markham	2	0	0	1	0*
Orange	2	0	4	2	1
Sour Lake	1	0	1	0	1
South Liberty	3	245	1	0	1
Vinton	2	1,150	0	0	1
West Columbia	1	0	0	0	0*
Total for week	20	1,660	4	5	6
Total last week	24	2,225	8	4	6

*Gas.

In the South Liberty Pool, the Humble Oil & Refining Co. abandoned No. 2 Deussen at 3,720 feet. The Texas Co.'s No. 5 Simms on the north side is pumping 45 bbls. at 3,325 feet and No. 5 Simms will make a 200-bbl. pumper.

The Texas Co.'s No. 7 Simms is drilling around 3,355 feet. On the new southwest side of the dome, the Gulf Production Co.'s No. 9-A Deussen fee is drilling below 3,120 feet and No. 10 is around

(Contiued on Page 133)

Waukesha Units near Lockhart, Texas, Pumping Water 8 Miles

Making Production Possible at Dale

Dale Field, near Lockhart, Texas, was as dry as a bone, with the nearest water eight miles away. Production depended on water. Within five days after they were ordered, a pair of Waukesha "Ricardo Head" Oil Field Power Units were pumping, against 550 pounds pressure, 6000 to 7500 barrels of water per day into the field. Thus drilling operations were possible because these quickly installed, easily portable units were available. Waukesha Oil Field Power Units are economical and reliable in operation.

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North Louisiana-Arkansas

By M. L. Vaughn

Arkansas production for the past week dropped 22,305 bbls. a day from the previous week's record, due mostly to the slump in Smackover heavy oil production. Louisiana has a new conservation commissioner. Nevada County, Arkansas, oil men now have a common carrier outlet.

SHREVEPORT, La., Aug. 15.—Production took another drop last week, for which the heavy oil district in the Smackover Field was chiefly responsible. Production of heavy oil in Smackover dropped from 218,995 to 197,030 bbls., a decrease of 21,965 bbls. a day. All other districts in both Arkansas and North Louisiana remained practically unchanged, the average daily production from both fields amounting to 286,064 bbls., distributed as follows:

NORTH LOUISIANA

	Daily Av. Bbls.
Bellevue	2,920
Caddo, light	8,915
Caddo, heavy	2,592
Cotton Valley	11,496
De Soto and Red River	4,095
Elm Grove	572
Haynesville	12,925
Homer	6,395
Total	49,909

ARKANSAS

	Daily Av. Bbls.
Smackover, heavy	197,030
Smackover, light	26,935
El Dorado	8,905
Nevada County	1,490
Stephens	1,795
Total	236,155
Total both fields	286,064
Decrease	21,931

New Conservation Commissioner

W. J. Everett, former State Conservation Commissioner of Louisiana, has been succeeded by Dr. V. K. Irion of New Orleans, and political circles are in a ferment over the unexpected denouement. A statement was issued by Governor Fuqua on August 10 which read as follows:

"In accordance with my duties and responsibilities, I have for the good of the service thought it proper to ask for Mr. Everett's resignation as Commissioner of Conservation, which at his suggestion is to become effective August 15."

On August 14, without waiting for Mr. Everett's resignation to become effective, Governnor Fuqua sent Dr. Irion to New Orleans to take charge of the department, summarily dismissing Mr. Everett. A blistering statement was then sent to Mr. Everett and made public in which the Governor accused him of abusing the privileges of his position and of reprehensible conduct in office. Scandal connected with letting of fur trapping privileges on the three great wild life sanctuaries on the Louisiana coast is said to be the issue between the former commissioner and the State.

These game preserves were secured to the State by Russel Sage and Rockefeller foundations, which, according to State Attorney General Saint, are certain to revoke their gifts unless the matter in question is cleared up to their entire satisfaction. It is claimed that trapping privileges were given which are in complete violation of the spirit and legal terms of the Russel Sage and Rockefeller gifts to the State.

Declared Common Carrier

After a long and bitter fight, the Mansfield Hardwood Lumber Co. railroad, the only outlet for oil produced in Nevada County, Arkansas, has been declared a common carrier and a tariff has been issued by the officials pending establishment of through rates under the Interstate Commerce Commission's rules.

The road is 23.5 miles in length and runs from Reader, in Ouachita County, to Waterloo, Nevada County, tapping the Nevada County oil field. Stations on the line are Cummings Springs, Dills Mill, Autrey and Ames. The company's rate on oil hauled from the Nevada field will be 9 cents a hundredweight, the same rate set for other intrastate hauls.

At the general assembly of 1925, an effort made to have this road declared a common carried failed, and an appeal was then made to the railroad commission. The case was finally taken into the United States District Court at Little Rock and Judge Trieber decided in favor of the commission, declaring the road a common carrier. An appeal was taken and final disposition of the case is now in the hands of the Federal Court.

Fortuna's Building Plans

The Fortuna Oil Co. has purchased 5 acres of land adjoining their plant on the H. & S. Railway, on which they will build an extension of their machine shops and make other improvements. Capacity of the machine shops will be increased to take care of all repair work in Arkansas, East Texas and North Louisiana territory, and a steel tank fabricating plant will be built in which tanks ranging in capacity from 500 to 1,000 bbls. will be built, to be used for storage purposes in the field. This work has formerly been done at the company's plant in Breckenridge, Tex.

The V. K. F. Drilling Co. of Shreveport, who drilled the discovery well in the now famous Smackover Field, is drilling in its second producer in the Artesia Field, New Mexico. The well is standing 400 feet in oil at around 2,100 feet.

J. W. Atkins, Shreveport, prominent local oil operator, accompanied by his wife, is spending the summer in California, near Hollywood.

Completions

Union County, Arkansas

Interest in Union County development during the week was augmented by the unusual number of wells drilled to the Blossom sand, wells in the south end of the deep sand area proving more satisfactory than those in the Ouachita County area. As a result of completions made in the Blossom sand during the week, there was added to the Blossom sand daily production of the field 75,000,000 feet of gas and 1,460 bbls. of oil.

The best well completed in the Blossom sand was the Simms Oil Co.'s No. 9 Cook, Section 16-16-15, which is flowing 750 bbls. at 2,653 feet.

Three wells were abandoned during the week, the Liberty Oil Co.'s No. 1 Davis, Section 31-16-14, at 1,680 feet.

BLOSSOM SAND THUS FAR HAS BEEN A DISAPPOINTING PLAY

EL DORADO, Ark., Aug. 15.—Whatever the Blossom sand may do as a result of the completion of the more than 200 wells now going down to it, up to this time it is a distinct disappointment, taken as a whole. There have been too many tests of salt water, too many gas wells with only a spray or at best a small oil production, and too few real oil wells to suit the operating fraternity as a whole. It may yet develop a large production, but the old time confidence in the Blossom sand as a wonder producer, on a par with the Nacatoch and the Graves sands, is not present now. The hopeful ones still hope, but the "Mizzoura" brand of oil men operating in the Smackover Field shake their heads dolefully.

Production of heavy oil is declining. For the 24 hours ending at 7 a. m. on Thursday the Graves sand yielded 139,992 bbls. and the Lawton and Blossom sands 16,440 bbls. Six hundred and thirteen wells had been completed in the Graves sand and 38 in the lower sands. The fact that production of the lower sands had increased very little with the completion of new wells has not set well with operators who are pinning their faith of fortune on what that sand will give up. Thirty-eight oil wells producing 16,440 bbls. a day means an average of 433 bbls. per well. If all the salt water wells and the gas wells were added to the 38 oil wells the production per well would be very considerably less. As the flush production of wells falls off pretty rapidly in that field an average of 433 bbls. per well is not regarded as large. It is very very much smaller than the average of the upper sands, which cost less to drill to.

The biggest production from the deep sand has been coming from Section 3-16-15, where Crawford & Sebastian's No. 5 Graves, The Texas Co.'s No. 7 Alphin and Hickman and others' No. B-1 Graves have been producing well over half of the oil that comes from the deeper sands. On August 6 these three wells were producing 9,000 bbls. of a total of 13,500 bbls. Section 3 thus far is the only Section in the field that has been at all consistent as a Lawton and Blossom sand producer.

The Graves sand production is naturally falling off. The territory is pretty well drilled up. There are about 80 wells drilling for that sand now.

The demand for heavy Smackover crude has ceased. That is, there is no scramble for it as there was some time ago when Dr. Winship, H. H. Cross Co., the Roxana interests and the Sun Oil Co. were forcing the market up in their anxiety to contract for oil. These companies and the other buyers are taking their daily runs and letting it go at that, and there is crude for sale to any one that wants it.

Trade in leases is not what it was, either. The Magnolia Petroleum Co. recently bought 30 acres of the Arkado Oil Co.'s Hatfield lease in Section 7-16-15, paying, it is said, $85,000 for it, but that was the only sale reported in some time.

Deep Sand Tests

The Houston Oil Co.'s No. 5 Reynolds, CNL SW SW, Section 27-15-15, set 6⅝-inch casing at 2,576 feet.

Standard Oil Co. of Louisiana's No.

(Continued on Page 126)

and the Phillips Petroleum Co.'s No. A-3 Alphin, Section 11-16-15, at 2,405 feet, and No. A-6 Alphin, same section, at 2,566 feet.

In the Graves sand, the Constant Oil Refining Co. completed No. 3 Goodwin, Section 36-17-16, pumping 80 bbls. at 2,229 feet; Gulf Refining Co.'s No. 35 Hardy-Murphy, Section 5-16-15, pumping 100 bbls. at 2,364 feet, and No. 19 T. C. Murphy, Section 9-16-15, pumping 125 bbls. at 2,435 feet, and Lion Oil & Refining Co. completed No. B-1 Bilyew, Section 8-16-15, pumping 100 bbls. at 2,510 feet.

Ouachita County

Development in the Ouachita County area of the Smackover Field resulted in the completion of 13 producing wells, adding 6,725 bbls. to the output of this district.

Bailey-Murray Oil Co. completed Rhoten B-4, Section 32-15-15, flowing 2,500 bbls. at 2,411 feet.

Gulf Refining Co.'s No. 5 S. Bennett, Section 32-15-15, is swabbing 210 bbls. at 2,410 feet; No. 8 B. Goodwin, same section, pumping 300 bbls. at 2,372 feet; No. 5 Umsted, same section, flowing 300 bbls. at 2,593 feet; and Umsted A-15, Section 33-15-15, pumping 115 bbls. at 2,375 feet.

Humble Oil & Refining Co. completed No. 4 F. A. & B. T. Laney, Section 31-15-15, flowing 600 bbls. at 2,589 feet and No. 5 F. Murphy, Section 3-16-15, pumping 75 bbls. with 62 per cent salt water at 2,374 feet.

Natural Gas & Petroleum Co. completed No. 6 Laney, Section 31-15-15, flowing 1,500 bbls. with 40 per cent salt water at 2,617 feet.

Ohio Oil Co.'s No. 3 Arnold, Section 26-15-16, is pumping 60 bbls. at 2,080 feet.

Penguin Oil Co. completed No. 3 Umsted, Section 4-16-15, pumping 150 bbls. at 2,368 feet.

Simms Oil Co.'s No. 6 Hirsch, Section 31-15-15, is flowing 250 bbls. at 2,588 feet.

Sinclair Oil Co. completed No. 11 Berry, Section 33-15-15, flowing 500 bbls. at 2,433 feet.

Wingfield and others completed No. 2 Fee, Section 5-16-15, pumping 165 bbls. at 2,380 feet.

Cotton Valley District

Alabama Petroleum Co. completed No. 1 Robins, Section 21-21-10, pumping 250 bbls. at 2,585 feet.

Ohio Oil Co. completed No. 4 Sidney Heirs, Section 16-21-10, pumping 130 bbls. at 2,550 feet.

Bossier Parish-Belevue Field

Standard Oil Co. abandoned No. 18 B. & W. Fee, Section 23-19-11, at 475 feet.

Caddo Parish

Standard Oil Co. completed No. 172 Stiles, Section 27-21-16, pumping 150 bbls. at 2,375 feet, in the Caddo-Pine Island Field.

LaSalle Parish

Freeman & Hawkins abandoned No. 1 Urania, Section 14-10-1e, at 2,015 feet, 2 miles west of Urania.

Lincoln Parish

Ruston Drilling Co. abandoned No. 1 Richardson, Section 7-18-2w, at 2,955 feet, 3 miles northeast of Ruston.

Columbia County

Arkansas Fuel Oil Co. abandoned No. 1 Longino & Goode, Section 14-18-20, at 3,108 feet, 9 miles southeast of Magnolia.

Phillips and others abandoned No. 1 Doris, Section 14-18-21, at 2,759 feet, 6 miles south of Magnolia.

Miller County

Humble Oil & Refining Co. abandoned No. 3 Dale, Section 35-15-26, at 1,482 feet, 10 miles west of Lewisville.

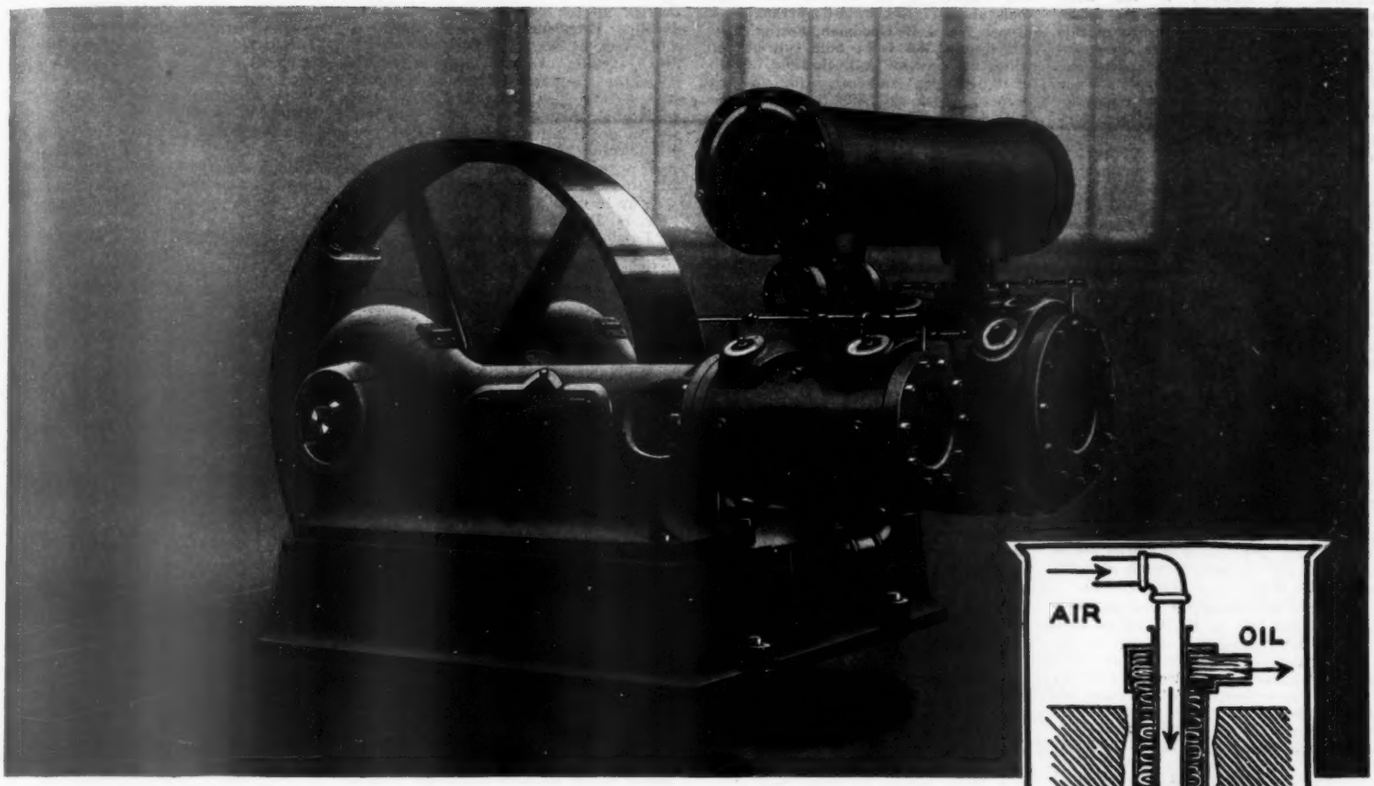
Nevada County

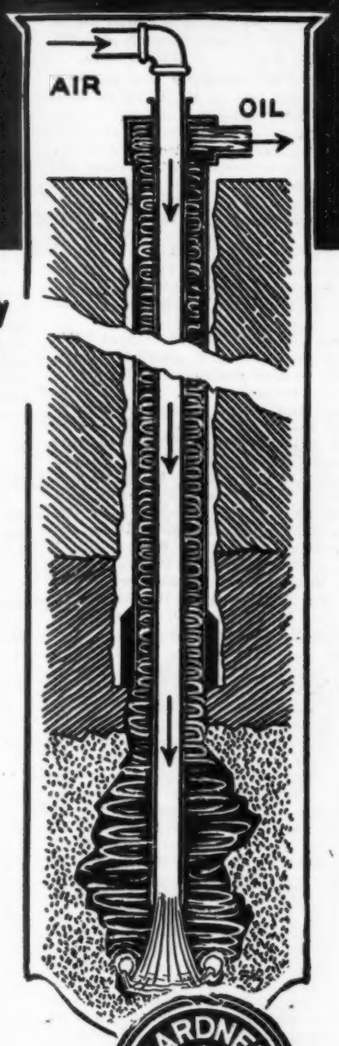
Arkansas Drilling Co. abandoned No. 1 Hamilton, Section 34-14-22, at 2,515 feet, 20 miles south of Prescott and Falcon Drilling Co. abandoned No. 1 Weaver Section 6-13-21, at 740 feet, 10 miles south and a little east of Prescott.

Drilling Operations

Union County, Arkansas

A steady decrease in drilling operations is noted in the Union County area of the Smackover Field, drilling wells at the close of the week numbering 131, rigs 12, and derricks 21, with no new





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locations. A majority of the wells drilled recently have gone to the 2,600-foot or Blossom sand and results of this drilling has been much more successful than the deep drilling in the north end of the field. It is not, however, of such nature as to give promise of a repetition of the intensive drilling campaign which resulted from development of the Graves sand.

Amerada Petroleum Co. is drilling at 2,425 feet in No. 6 Giler, Section 4-16-15; No. 10 Lyell, Section 3-16-15, is blowing wild with a flow of gas estimated at 10,000,000 cubic feet and 5,000 bbls. of salt water at 2,525 feet, and No. 11, same section, is drilling at 1,210 feet. Arkansas Fuel Oil Co. is rigging up to clean out with cable tools at 2,272 feet in No. 4 Murphy, Section 8-16-15, and drilling at 2,600 feet in No. 3 Paphr, Section 35-15-16.

Nick Barbara is drilling at 2,550 feet in No. 1 Houston, Section 12-16-16; R. A. Bristol, drilling at 2,525 feet in No. 1 Parkerson, Section 1-16-16; Broderick & Calvert set 4½-inch casing at 2,387 feet in No. 1 Bradford, Section 8-16-15; Brooks Trustee repairing rig at 2,515 feet in No. 1 Murphy, Section 13-16-16; J. W. Clark arranging to drill deeper in No. 2 Palmer, Section 9-16-15, completed at 2,337 feet, and Coates & Sowell tested salt water and are setting casing at 2,413 feet in No. 3 Bilyew. Section 9-16-15.

Crawford & Sebastian are plugging back to 2,435 feet in No. 9 James, Section 6-16-15, drilling at 2,365 feet in No. 6 Giller, Section 13-16-15, and at 2,010 feet in No. 8 Graves, Section 3-16-15; J. E. Crosby's Lawton A-6, Section 10-16-15, is flowing 5,000 bbls. of salt water in four feet of sand at 2,612 feet; Custer & Nash have set 10-inch at 530 feet in No. 1 Primm, Section 1-16-16, and Rowe-Daniels have 1,200 feet of fluid at 2,438 feet in No. 4 Tatum, Section 7-16-15, and tested salt water in two feet of sand at 2,440 feet in No. 5, same section.

Doren and others are drilling at 2,290 feet in No. 1 Fletcher, Section 4-19-16, 5 miles west of production in the South Eldorado Field.

Eason and others have set casing to cut off the salt water at 2,475 feet in No. 5 Murphy, Section 15-16-15, and are rigging up to drill No. 6 Palmer, Section 9-16-15; Federal Petroleum Co. is drilling at 2,620 feet in Lawton A-10, Section 10-16-15 and coring at 2,575 feet in No. 6 Flenniken, Section 6-16-15; W. H. Gilliland, rigging up to drill No. 2 Rice, Section 7-16-16; Fitzwater and other, closed down at 1,050 feet in No. 1 Saxon, Section 16-16-16; George & Jones are fishing at 2,480 feet in No. 5 Murphy, Section 18-16-15.

Gulf Refining Co.'s No. 8 J. H. Alphin, Section 10-16-15, came in making 10,000,000 feet of gas and 100 bbls. of oil at 2,566 feet and will be drilled deeper; No. 12 M. Alphin, Section 2-16-15, is standing at 2,411 feet with 1,500 feet of oil in the hole and standard rig is being built to pump, with No. 14 fishing at 2,592 feet and No. 15, arranging to deepen from 2,465 feet, in the same section; No. 9 J. A. Berry, Section 7-16-15, is coring at 2,666 feet; No. 3 Fagg, Section 7-16-15, set 6-inch at 2,333 feet and No. 1 Howard, Section 13-16-16, at 2,692 feet; No. 7 LeCroy, Section 16-16-15, has 1,600 feet of oil in the hole and is arranging to pump at 2,506 feet; No. 33 Hardy-Murphy, Section 4-16-15, has 600 feet of oil in the hole and is arranging to pump at 2,378 feet; No. 34, same section has 600 feet of oil in the hole and is arranging to pump at 2,364 feet, and No. 36, Section 3-16-15, tested 30,000,000 feet of dry gas in 38 feet of broken formation at 2,562 feet; No. 3 T. D. Murphy, Section 7-16-15, is drilling at 2,342 feet.

F. C. Henderson is drilling at 2,770 feet in No. 2 Smith, Section 18-16-15; Hickman and others have a fishing job at 2,020 feet in No. 11 Graves, Section 3-16-15; Higgins Oil & Fuel Co. is testing in 8 feet of sand at 2,268 feet in No. 3 McGraw, Section 7-16-16; Houston Oil Co. has set casing at 2,547 feet in No. 5 Milner, Section 3-16-15, and the Humble Oil & Refining Co. is drilling at 1,650 feet in Flenniken A-4, Section 3-16-15, and rigging up to drill in with cable tools at 2,377 feet in A-6; arranging to deepen No. 4 B. Goodman, Section 3-16-15, from 2,380 feet; hole full of salt water in Lawton A-3, Section 7-16-15, at 2,640 feet, and arranging to drill deeper; coring at 2,598 feet in Lawton A-4, same section.

Imperial Oil & Gas Co. drilling at 2,300 feet in No. 8 Murphy and at 2,380 feet in No. 9, Section 9-16-15; Johnson Drilling Co. is bailing to test 8 feet of sand at 2,270 feet in No. 4 Anderson, Section 1-16-17; E. M. Jones is drilling at 1,800 feet in No. 4 Cook, Section 16-16-15; Keene & Woolf, arranging to plug back in No. 1 Bradford, Section 7-16-15, which tested salt water at 2,628 feet and are fishing at 850 feet in No. 1 J. S. Murphy, Section 9-16-15; Lion Oil & Refining Co. is drilling at 2,530 feet in Bilyew C-4, Section 8-16-15; sidetracking at 2,225 feet in No. 4 Graves, Section 3-16-15; drilling at 2,585 feet in Lawton A-7, Section 10-16-15; coring at 2,660 feet in No. 1 LeCroy, Section 16-16-15, and has nine rigs running on the Murphy lease, Section 8-16-15.

J. S. Lyell is drilling at 1,810 feet in No. 4 Fee and at 2,470 feet in No. 7, Section 3-16-15; Magnolia Petroleum Co. set casing at 2,275 feet in No. 5 Campbell, Section 13-16-17; is rigging up to drill No. 6 Hatfield, Section 7-16-15; and drilling at 750 feet in No. 3 Stout Lumber Co., Section 1-16-17.

A Deep Wildcat

Magnolia Petroleum Co. has set casing at 3,135 feet in No. 1 Chandler, Section 4-19-14; 5 miles east of production in the South El Dorado Field.

Mazda Oil Co. is setting a string of casing to cut off the salt water flow in Lawton R-3, Section 10-16-15, at 2,450 feet, and is coring in its deep test in R-4, same section at 2,960 feet.

Moco Oil Cop. tested salt water at 2,368 feet in No. 2 Flenniken, Section 5-16-15, and is drilling plug at 2,365 feet in No. 4, same section; Natural Gas & Petroleum Co. is drilling at 2,050 feet in No. 4 Ballard, Section 15-16-15; set 6-inch at 2,605 feet in Murphy C-3, and 12½-inch at 560 feet in Murphy D-4, Section 8-16-15; Ohio Oil Co. is drilling at 1,850 feet in No. 1 Arkansas Timber & Land Co., Section 21-18-10, and is reaming to bottom of hole at 2,530 feet in No. 11 Murphy, Section 10-16-15.

G. H. Pace is drilling at 900 feet in No. 1 Barnett, Section 11-16-18, half way between the Stephens Field and Louann.

Parrish and others are drilling at 1,475 feet in No. 3 Ferguson, Section 6-16-15; Penguin Oil Co. tested salt water with a show of oil at 2,517 feet in No. 3 Murphy-Sanford, Section 17-16-15, and is arranging to drill deeper; rigging up to drill No. 4 G. E. Murphy and has derrick up for No. 5, Section 8-16-15; Phillips Petroleum Co. set casing at 2,615 feet in No. 12 Giller, Section 10-16-15, fishing at 2,590 feet in No. 2 Thompson, Section 7-16-15, and swabbing to test three feet of sand at 2,465 feet in No. 4, same section. The Pure Oil Co. is drilling at 1,050 feet in Bilyew B-3, Section 8-16-15; has 1,500 feet of fluid in the hole in 3 feet of sand at 2,393 feet in No. 5 Merriweather and rigging up to drill No. 6, Section 6-16-15.

A. H. Ramage is drilling at 100 feet in Lawton C-9, Section 10-16-15; Joyce Richardson has set casing at 2,385 feet in No. 3 Bradford, Section 8-16-15; Sam Richardson is drilling at 2,260 feet in No. 5 Lawton, Section 10-16-15; Ramsey and others are drilling at 250 feet in No. 2 Rice, Section 7-16-16, and Riggs Drilling Co. at 2,450 feet in No. 1 Wingfield, Section 5-16-15; Roxana Petroleum Corp. tested salt water in 6 feet of sand at 2,600 feet in Flenniken A-2, Section 10-16-15, and Rutledge Trustee is drilling at 1,850 feet in No. 2 Carruth, Section 7-16-16.

Shreveport Oil Corp. is arranging to deepen No. B-2 Murphy, Section 9-16-15, from 2,465 feet; Smitherman & McDonald are coring at 2,580 feet in No. 1 Dumas, Section 23-16-16; Southern Crude Oil Producing Co. has 25,000,000 feet of gas in 26 feet of sand at 2,552 feet in No. 5 Lyell, Section 3-16-15; Standard Oil Co. set 6-inch at 2,385 feet in No. 22 Hardy, Section 10-16-15, fishing at 2,645 feet in No. 28, Section 9-16-15, and arranging to pump No. 35, Section 4-16-15.

Stewart and others are rigging up to drill No. 4 Murphy, Section 9-16-15; Jim Stock is drilling at 2,870 feet in a deep test on the Polk & Ezell lease, Section 18-17-14; The Texas Co. has 1,500 feet of oil in the hole in 15 feet of sand at 2,475 feet in No. B-5 J. Berry, Section 8-16-15; is drilling at 2,430 feet in No. 7 Calloway, Section 4-16-15; set 4½-inch at 2,520 feet in No. 8 Graves, Section 3-16-15; arranging to pump No. 4 Hays, Section 4-16-15, and rigging up to drill No. 3 Langley, Section 7-16-16.

Thurman and others' No. 1 Houston, Section 12-16-16, is blowing 30,000,000 feet of gas with 500 bbls. of salt water at 2,685 feet, and No. 3 Wingfield, Section 5-16-15, has 1,200 feet of fluid in the hole in 27 feet of broken formation, and will be put to pumping at 2,375 feet.

Unity Petroleum Co. has set 8¼-inch casing at 2,540 feet in No. B-8 Bilyew, Section 8-16-15, and is rigging up to drill Nos. 11, 12 and 13, in Section 3-16-15; Vance and others are drilling at 1,500 feet in No. 1 Kane, Section 12-16-16.

Ouachita County, Arkansas

There is very little change in the drilling activity in the Ouachita County area of the Smackover Field during the past week. There being 121 wells drilling, 31 derricks, 15 wells rigging up, 16 waiting on standard rig, 10 temporarily abandoned, with 2 new locations.

The Arkansas Fuel Oil Co.'s No. 9 Snyder, Section 34-15-15, is drilling at 1,060 feet; the Atlantic Oil Producing Co. tested their No. 5 Berg, Section 30-15-15, testing salt water with 5 feet of sand in the hole at 2,511 feet; they are rigging up No. 6 Berg, same section.

Clark & Melat's No. 3 Murphy, Section 4-16-15, is still blowing wild, estimated making 30,000,000 feet of dry gas, with 1 foot of sand in the hole, at 2,511 feet; Colcord and others have two wells drilling on the Laney lease, Section 31-15-15; J. E. Crosbie tested his No. 10 Berry, Section 33-15-15, with show of oil and salt water. Is now awaiting cement to set 4½-inch casing at 2,570 feet, with 12 feet of sand in the hole; set 12½-inch casing at 300 feet in No. 11 Berry, same section, and is now drilling at 490 feet; is coring at 2,660 feet in No. 12 Berry, and has derricks up for Nos. 13 and 14, all in Section 33-15-15.

The Cumberland Petroleum Co. is awaiting standard rig with 9 feet of sand and 100 feet of oil in the hole at 2,309 feet in their No. 2 Elliott, Section 29-15-17; Duho Oil Co. cored sandy shale at 2,717 feet in No. A-1 McKenzie, Section 36-15-16; the El Dorado Union Oil Co. is awaiting orders in red shale at 2,707 feet in No. 1 Eagle Lumber Co., Section 17-12-15; the Empire Oil & Gas Co. is coring No. 5 Laney, Section 31-15-15, at 2,568 feet.

Giles and others have two rigs running on the Neely lease, Section 26-15-16; the Gilliland Oil Co. is drilling at 2,522 feet in No. B-6 Myar, Section 30-15-17; Grayson and others are drilling at 1,720 feet in No. 2 Williams, Section 5-16-15.

The Gulf Refining Co. is down 1,861 feet in No. 8 R. Bennett, Section 33-15-15; derrick up for No. 6 S. Bennett, Section 32-15-15; waiting on standard rig for No. 18 Flenniken, Section 5-16-15, with 450 feet of oil and 17 feet of sand in the hole at 2,276 feet; has three rigs running on the B. Goodwin lease, Section 32-15-15; three rigs running on the J. Goodwin lease, Section 32-15-15, and 5-16-15; same company's No. A-16 Umsted, Section 33-15-15, is awaiting standard rigs with 800 feet of oil and 18 feet of sand in the hole at 2,364 feet; No. A-18 Umsted, Section 33-15-15, is drilling at 2,035 feet; drilling No. 2 Scott, Section 34-15-15, at 2,160 feet.

The Houston Oil Co. set 6⅝-inch casing at 2,500 feet in No. 9 Hinton, Section 5-16-15; three rigs running on the Reynolds lease, Section 17-15-15; Howell and others have two rigs running on the Williams lease, Section 3-16-15.

The Humble Oil & Refining Co. has two rigs running on the Arnold lease, Section 26-15-16; set 6⅝-inch casing at 2,570 feet in No. 6 Farris, Section 34-15-15, and is now down 2,575 feet; coring at 2,570 feet in No. 6 Flannigan, Section 6-16-15; taking core at 2,592 feet in No. 9 F. A. and B. T. Laney, Section 31-15-15; drilling No. 3 H. Laney, Section 31-15-15, at 2,382 feet; No. 1 Woods, Section 34-15-15, is full of salt water and the crew is awaiting orders with 15 feet of sand in the hole at 2,575 feet.

The Imperial Oil & Gas Producing Co. is drilling No. 10 McClanahan, Section 6-15-15, at 2,335 feet. The Magnolia Petroleum Co. cemented 8¼-inch casing at 2,368 feet in No. 8 J. Goodwin, Section 5-16-15. The Marine Oil Co. is taking core at 2,526 feet in No. 8 Hays, Section 4-16-15; is drilling No. 5 Snyder, Section 34-15-15, at 2,485 feet, and coring at 2,672 feet in No. 9 Umsted, Section 5-16-15.

J. H. Meek, trustee, set 6⅝-inch casing at 2,594 feet in No. 6 Laney, Section 31-15-15, and has derrick up for No. 10 Laney, in Section 36-15-16. The Natural Gas & Petroleum Co. is down 2,590 feet in No. 9 Laney, Section 31-15-15. The Ohio Oil Co. tested No. 5 Goodwin, Section 29-15-15, and got 30,-

(Continued on Page 130)

East Central Texas

By Special Correspondent

CORSICANA, Tex., Aug. 15.—The East Central Texas Field presents a very quiet front this week. The Humble Oil & Refining Co., which has been carrying on a shallow sand drilling campaign has stacked some of its tools and laid off some men and this will quiet the Powell Field more than ever and outside of what has been going on in Powell and the new Barclay Pool, or Richland district, there is very little doing.

Robert Penn has not lost all faith in Bazette. He and others has started drilling another test northeast of Powell on the Vinson tract, Bailey survey, and if it is a failure it will mean the beginning of the end of Bazette.

The Magnolia Petroleum Co.'s' test on the Kime farm in Milam County which showed a core with some oil saturation will be deepened this week and should soon definitely demonstrate the presence or absence of oil in that part of the territory.

In Limeston County the Magnolia Petroleum Co. has abandoned its No. 1 R. Kennedy, Varela survey, Groesbeck area, at a total depth of 3,240 feet. This test had chalk at 2,341-2,630 feet but salt water at 3,006-08 feet. In the same district W. S. Yoder and others were testing two feet of sand topped at 3,006 feet which cored a small showing. Paddy Kosse has a derrick up for a test on the T. J. Curry farm, J. Land survey, and Lewis & Hunter have a derrick up to test for No. 1 D. Oliver on the Dennison & Sullivan survey.

In Navarro County, Carland Kent has a derrick up for No. 1 Derden, Donnelson survey.

Powell completions include the Humble Oil & Refining Co.'s No. 12-B Fleming, Barry survey, 18 bbls., at 1,596-1,621 feet; same company's No. 21-A Ramsey, Smith survey, 20 bbls. at 1,525-1,630 feet; same company's No. 22 G. C. Kent, Smith survey, 12 bbls. at 1,545-93 feet; Richland (Barclay) completions included Moore and others' No. 1 Moore & Banks, Byers survey, dry and abandoned at 2,150 feet; Sun Oil Co.'s No. 4-A Hillburn, Hudson survey, 65 bbls. at 2,979-90 feet.

The Barclay Pool has been a disappointment. It is a small area and the completions did not come up to expectations thus far.

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California Field Operations

By L. P. Stockman

Rosecrans displaces Inglewood in completions for week, six to one, but decline almost offsets new production. Associated Oil Co.'s No. 3 Higgins makes 1,675 bbls. Inglewood thought to have passed peak in upper zone. Deeper drilling contemplated. Obispo Oil Co. gets well in Maricopa Flats.

LOS ANGELES, Cal., Aug. 15.—Rosecrans displaced Inglewood as the center of attraction during the week, as there were six new wells finished in the former area and only one in the latter. It would be logical to assume that Rosecrans would register a substantial increase in production as the result of the completion of these new wells, but, as a matter of fact only a small gain was made, as the decline in producing wells nearly offset the new production added. Completions in this district have not been coming in very regular but from now on the number should increase, as there are numerous drillers either in the pay or standing just above it. The next 30 days should see the completion of 10 or 12 new wells scattered throughout the field in general, the largest contributor of which should be the Union and Barnsdall Oil companies. The Associated carried off completion honors during the current week by bringing in No. 3 Higgins, a new well drilled to 4,624 feet but later plugged back to 4,510 feet. Flowing a 1-inch bean under a pressure of 440 pounds, it tanked 1,675 bbls. of 40.5 gravity oil which is cutting 2 per cent. This well, which is at present the largest producer in the Rosecrans Field, should be followed within a short time by No. 1 Higgins, which is now being redrilled and deepened. The Dominion Oil Co., after encountering a multitude of fishing jobs and mechanical trouble, succeeded in placing its No. 3 Athens on production after drilling to 4,770 feet and completing the hole with a 4½-inch oil string. Flowing through a ½-inch bean under a pressure of 680 pounds, the well tanked during its initial test 987 bbls. of 37.6 gravity oil which cuts 5 per cent.

The two Gettys, George F. and Paul, both increased their production by completing a new well. George F. Getty's completion was his No. 8 Athens, drilled to 4,361 feet and finished with a 6¼-inch oil string. It is listed at 876 bbls., the oil testing 35.2 degrees and showing a cut of 4 per cent. The next completion on this lease should be No. 6, now standing cemented at 4,734 feet. No. 7 in the northern part of the field, is still dry and drilling ahead at 5,280 feet in a hard gray sand. Paul Getty completed his No. 3 Athens at 4,979 feet and finished the hole with a 6¼-inch oil string and 4,430 feet of 2½-inch tubing. It tanked during the first 24 hours 700 bbls. of 36.4 gravity oil, which cuts 1 per cent. It is flowing through a ½-inch bean under a pressure of 320 pounds. The Julian Petroleum is listing No. 1 Athens as a completion at 5,300 feet after finishing the hole with a 4½-inch oil string and 4,860 feet of 2½-inch tubing. The output was not very satisfactory, as it is cutting about 35 per cent water. The company will allow the well to flow for several days in the hope it will clean up. The initial output, 800 bbls. of fluid, is flowing through a ¾-inch bean under a pressure of 230 pounds. Julian's next completion should be No. 4 Athens, now being prepared for a production test at 4,401 feet. No. 12 at 4,200 feet and No. 13 at 4,206 feet should follow after, unless mechanical trouble develops as they have but a short distance to go.

E. A. Parkford completed his No. 1 Athens at 4,968 feet with a 6¼-inch oil string landed on bottom. The well is just getting under way and is, therefore, only rated at 230 bbls., the oil testing 34.8 degrees. The California Petroleum redrilled and deepened No. 1 Colby to 4,812 feet but it failed to flow when given the opportunity. A 4¾-inch oil string carrying 110 feet of 80 mesh screen was used to finish the hole. The failure to secure a nautral flow has resulted in the decision to put it on the beam. No further work has been done on No. 1 Baskin at 5,337 feet, No. 1-A Ducommon at 5,177 feet or No. 1 Folsom at 5,377 feet, which have been standing suspended. The Union has had the misfortune of running into a series of fishing jobs on several of its Howard Park wells and did not finish any new producers on this lease. It is expected that several will be on production shortly. The Pan-American is still working on its Anderson lease and has No. 2 going ahead at 5,200 feet.

The Barnsdall Co. is preparing to recomplete No. 1 O'Dea at 4,910 feet after a delay of several weeks due to a fishing job. There are two other wells on this property, No. 4, drilling ahead at 1,900 feet and No. 6, making hole at 3,900 feet. The Chanslor-Canfield Midway Oil Co.'s No. 1 Bilhorn at 5,725 feet has all the earmarks of another dry hole. The Mohawk Oil Co. is preparing to redrill and deepen No. 1 Book, a recent completion at 4,362 feet, following a heavy decline in production. This well has dropped to practically nothing and the company will add a few hundred feet of hole in an attempt to stimulate production.

Inglewood

It begins to look as though production at Inglewood has passed the peak in the upper zone, although there are some eight or ten wells, due to come in within ten days which may have a tendency to keep up production for a short time longer. The most important topic right now is whether a deep zone underlies the present producing horizon. Several operators are willing to wager a deeper zone will be developed and it does look as though this may become a realty. The two wells which tend to indicate there will be a deep sand in the center of the field are Oscar Howard's No. 1 Dominguez and the California Petroleum's No. 6 Smith. Howard has reached a depth of 4,345 feet in his No. 1 Dominguez, at which depth the formation is a gray sand streaked with shale and oil sand. This hole, while it does not show enough oil to warrant a test, looks fairly promising. The lease is near the outer edge in the northeastern part of the field and it may be possible the showings found at 4,345 feet may be comparable to those in the upper zone in the center of the field, if due allowance is made for a dip in the structure. The California Petroleum's Smith property is also near the edge of the field and the same deductions apply to this well.

The deep sand development is anticipated at present in the center of the field unless upper zone wells drop off substantially and enter the pumper class. If any great number fail to hold up, deeper drilling will be in order, with indications quite favorable. There was only one completion recorded during the past seven days, the Petroleum Securities addding No. 12 Rubel to its list of producers. This hole, which was drilled to 2,480 feet, was finished with an 8⅝-inch oil string carrying 1,317 feet of perforated. The output, 1,960 bbls. of 22.1 gravity oil, which cuts 3 per cent, is flowing through two 1-inch beans under a pressure of 280 pounds. The Petroleum Securities still has four drillers on its Cone lease, two on the Lloyd and three on the Rubel property to finish before completing its present drilling program. The Standard is preparing to abandon No. 1 Stocker as a dry hole at 5,701 feet but is erecting a steel rig for a second test. It is problematical which will be the Standard's next completion because of the large number of holes being drilled. On Los Angeles Investment lease No. 1, No. 25 looks good at 2,465 feet, while No. 26 looks equally promising at 2,520 feet. No. 24 at 2,090 feet and No. 27 at 1,960 feet are both drilling ahead in an oil sand, as is also No. 28 at 1,530 feet. Additional rigs are going up on this property for Nos. 20, 30, 31 and 32. The company's operations on Los Angeles Investment lease No. 2 consist of No. 1, a deep test suspended at 5,790 feet, No. 4 cemented at 2,050 feet, No. 5 cemented at 1,980 feet and No. 6 going ahead at 1,520 feet. On Vickers lease No. 1, the company is working Nos. 16, 17 and 18. Vickers leases Nos. 2 and 3 are credited with one driller each.

The Associated has passed both Nos. 20 and 25 on its Vickers lease for production and they should be tanking oil within a few days. No. 32 is not showing up as well as might be expected at 2,768 feet but may show a decided improvement shortly. The Brownmoor Oil Co. is still battling with water in its No. 1 Brown, which has been plugged back by stages from 2,612 feet to 2,064 feet. The company's No. 3 is in a shale and oil sand at 1,700 feet and should be good for production within a short time unless it is drilled into bottom water, as was done with a previous hole. The Pacific Oil has suspended further work on its prospect wells, No. 1 at 1,990 feet and No. 2 at 1,533 feet, and will devote its efforts toward developing production on its partially proven Baldwin lease. On the latter property, it has No. 12 at 1,736 feet, No. 17 at 2,285 feet and locations staked or material on ground for Nos. 13, 14, 15, 16, 18 and 26. The General Petroleum is not meeting with the success anticipated on the Brown-Shasta property. The company suspended work on all wells but No. 2, which is now down 3,300 feet and destined for a deep test unless production is developed soon.

Dominguez

The Marland's deep test at Dominguez, No. 7, is drilling a head at 5,786 feet in a gray sand and not looking any too good. The showings found around 5,500 feet were not of sufficient thickness to warrant production and, while they make the Union and Shell holdings look good for a deep zone, they did not prove up the Marland property. In view of the rather discouraging outlook, it would not be at all surprising if the Marland abandoned this hole and reliquished part of the lease as commercially unproductive, in view of the fact that the present upper wells are rapidly going to water. There was one completion listed at Dominguez this week, the Union bringing in No. 7 Callender after drilling to 4,427 feet and finishing the hole with a 6¼-inch oil string carrying 344 feet of 120 mesh screen and 3,905 feet of 2½-inch tubing. The initial output was 570 bbls. of 30.6 gravity oil which cut 5 per cent. A pressure of 240 pounds has been built up back of the two beans used, one measuring ⅝-inch in diameter and the other ¾-inch. The Union is still working on one or two holes on the Callender and Hellman leases and will add new production from time to time. The Shell is making hole in No. 27-A Reyes at 2,820 feet and reaming No. 29, which is in the oil sand at 3,795 feet. No. 30 Reyes has just been spudded in.

Jim O'Donnell finished an excellent flowing well at Long Beach when his No. 40 was given a test at 4,670 feet. The initial output was 1,094 bbls. of 21.8 gravity oil which cuts 5 per cent. O'Donnell has two remaining drillers in this area, No. 41 at 4,270 feet and No. 42 at 3,700 feet. O. D. Knight cleaned out his No. 2 and put it on the beam at 4,918 feet. The initial pumping was 62 bbls. of 21.7 gravity oil which cut 4 per

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TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Folowing is a list of tankers, date departed, destination kind of cargo and amount in barrels:

David McKelvy, August 3, New York, crude	77,092
S. C. T. Dodd, August 5, New York, refined	79,487
Halo, August 3, Boston, crude	81,491
Coastwise	
W. S. Miller, August 3, Richmond, fuel	74,080
Richmond, August 3, Portland, fuel	63,714
Challe Watson, August 4, San Diego, refined	15,126
Paul Shoup, August 4, Avon, crude	81,946
M. H. Whittier, August 5, Avon, crude	81,004
H. M. Storey, August 5, Richmond, crude	99,463
Lobac, August 5, Seattle, fuel	67,390
Los Alamos, August 6, Portland, refined	32,977
Frank G. Drum, August 7, Avon, crude	70,317
W. S. Miller, August 7, Richmond, crude	72,671
K. R. Kingsbury, August 7, Richmond, crude	83,158
Yorba Linda, August 7, Seattle, refined	77,104
Solana, August 7, Avon, crude	75,198
J. A. Moffett, August 6, Point Wells, fuel	63,701
El Segundo, August 8, Point Wells, refined	30,674
Los Angeles, August 9, Martinez, crude	74,020
H. M. Storey, August 9, Richmond, crude	96,548
EXPORTS	
Scottish Bard (Br) August 4, Balboa, fuel	60,175
W. H. Tilford, August 4, Porto Rico, refined	76,411
Chuky (Br) August 7, Chile, fuel	68,232
Levant Arrow, August 7, China, fuel	85,924
Utacarbon, August 7, Vancouver, fuel	75,617
Coalinga, August 4, Chile, fuel	81,797
Limnea (Br) August 8, China, refined	61,035
Salina, August 9, Manila, fuel	60,092
FROM VENTURA	
Los Angeles, August 3, Martinez, crude	73,890
Frank H. Buck, August 4, Avon, crude	63,080
Oleum, August 5, Oleum, crude	31,285
FROM PORT SAN LUIS	
San Antonio, August 7, San Francisco, fuel	60,191
Oleum, August 9, Oleum, crude	34,999
FROM SAN FRANCISCO	
Kewanee, August 6, Los Angeles, refined	29,411
Mytilus (Br) Yokahama, fuel	61,097
Gargoyle, August 8, Paulsboro, refined	81,087
Wm. F. Herrin, August 9, Honolulu, fuel	55,406
Paul Shoup, August 9, Linnton, fuel	77,910
Warwick, August 9, Portland, refined	31,715
Lubrico, August 9, Astoria, fuel	86,142

Why Drill Five Wells If Three Will Produce As Much Oil As Five?

Imagine a chain store organization maintaining five stores in a community where three would result in an equal amount of sales.

Yet drilling five wells where three would produce an equal amount of oil over a given period is a common practice in the oil industry.

The chain store prevents over-occupation by gauging a community's needs from a study of proven factors; and the same opportunity to prevent extravagant development now exists in the oil industry.

By core drilling, and from a study of the cores unearthed, this Company is able to determine—

(a) The character and extent of the oil pool;

(b) The depth, porosity, thickness, gas content, saturation and water limit of the sand;

(c) Approximate the gas pressure and volume of oil output.

With these facts established the producer is assured economical operation in four ways:

(1) He can drill wells so as to penetrate sands only to the most productive point;

(2) He can space wells so as to secure maximum production from each well;

(3) He can limit wells so as to conserve gas pressure and insure natural flow over the longest possible period;

(4) He can space wells so as to increase the life of the well with consequent reduction in operating costs.

We are doing all these things for other producers, and shall be glad to tell you how we can obtain like results for you.

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M.E.Co.

MINERAL EXPLORATION Co

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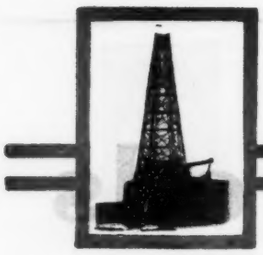


Southwest Texas Fields

By Staff Correspondent

Lockhart Field, 4 months old, developing profitable production. The Texas Co.'s No. 4 Beaty flows 1,000 bbls. flush and Gulf Production Co.'s No. 11 Beaty 800 bbls. Magnolia Co.'s wildcat south of the Guadalupe County section of Luling based on theory of second fault paralleling that in Luling.

SAN ANTONIO, Tex., Aug. 17.—The Associated Oil Co. (Rio Bravo subsidiary) for a consideration of $80,000 cash has purchased Block 50 of Survey 592 Los Ojuelos grant, Wolcott Pool, in the Mirando Field, in Webb County, with seven wells and a daily average total production of about 250 bbls. This is at the rate of $320 per barrel of daily production. Associated Co. entered the field more than a year ago and has been steadily increasing its acreage by purchase. Its production for the week ending August 1 was 400 bbls. from the Jim Hogg County Pool and 1,800 bbls. from the Webb County pools, or a little over 300 bbls. per day. The Cin-Tex Co. at that time had a weekly production of 1,500 bbls., increased since by other completions. This gives the Associated a total of over 500 bbls. daily production in the Mirando pools.

Out of a total weekly production of around 53,000 bbls. from the Mirando Field, about 12,000, or less than one-fourth, is in miscellaneous hands, scattered among relatively small producers. The field has been gradually drifting into the hands of a few producers, with the Crown Central, Magnolia Petroleum, Associated, the Killam interests and Kitselman & St. Albans owning the biggest production, totaling over three-fourths of the field.

Lockhart Field

Indications are that the Lockhart Field, now practically four months old, will be a very profitable little oil field, and considering its size, one of the most profitable in the State. The profits will be divided very largely between five major companies and one independent, but with a number of other companies sitting in around the edges with smaller leases and with profits in proportion to the size of the leases, yet nevertheless evident.

The major companies are the Gulf Co., which originally blocked the acreage. Humble, Marland, Sun, Mid-Kansas and the independent is Witherspoon Oil Co. of this city. Gulf Production Co. has a larger acreage in proven territory than any of the other companies either major or independent and hence it is natual that its profits should be the largest. Based on its acreage and the production it is getting, it is believed that the Gulf Co. should clean up somewhere in the vicinity of two million dollars if the field meets the continuing expectations of the geologists and engineers.

Total production figures for the month of July are not yet available but of the total production of 361,382 bbls. for June the six largest producers of the field produced:

Gulf Production	130,499
Humble Oil & Refining	45,120
Marland Oil Co.	38,473
Sun Oil Co.	56,324
Mid-Kansas	12,421
Witherspoon	28,502

The Marland production includes 33,934 bbls. from the Gomillion lease, which was developed by Cranfil-Reynolds and 4,539 bbls. from the Palmer lease developed by Lucey Production Co. Mid-Kansas has the smallest lease of any of the majors.

When the figures for July are available it will show a very much larger proportion produced by the Gulf Co. for most of the others early completed the development of their leases and Gulf is extending its development to the south. Witherspoon has greatly increased his production through purchase of the Mills Bennett properties which for June provided 19,358 bbls. Witherspoon bought the Brewer lease of 30 acres on which was the discovery well of Lefevre & Storey. While the price was never officially given out it is understood it was $110,000. The lease has been already paid for out of the production and early this month was making close to 800 bbls. a day, fully developed with wells. The lease has proven one of the best buys made in South Texas and is now mostly on "velvet." The Mills Bennett leases were purchased by Witherspoon and on the Cardwell were four producers. There are now nine with a production of about 2,000 bbls. daily.

Sun Oil Co. owned its 100-acre lease two years before the field was discovered and the lease is one of the best in the field, being right in the heart of it. Humble and Marland were similarly situated and so was Mid-Kansas.

Lockhart Completions

Recent completions in the Lockhart Field are as follows: Brownlee Beaty lease, No. 3 topped pay at 1,300 feet pumping 300 bbls.; No. 4 topped pay at 1,300 feet pumped 250 bbls.; and No. 5 topped pay at 1,276 feet and pumped 250 bbls. These are on the southwest edge of the pool, amounting to an extension which was brought in by the Randolph wells.

In the same territory Cope and others got a 200-bbl. pumper in No. 2 Beaty and a 150-bbl. pumper in No. 3 Beaty; Magnolia Petroleum a 10-bbl. pumper in No. 2 Beaty at 1,500 feet and also in its No. 3 Beaty; Randolph two 10-bbl. pumpers in Nos. 2 and 3 Beaty.

The Texas Co. was more fortunate. Its lease is between Randolph and Cope. Its No. 4 Beaty flowed 1,000 bbls. flush at 1,471 feet and No. 5 flowed 528 bbls. flush at 1,571 feet. Its Nos. 6 and 7 Beaty were both dry and its No. 12 flowed 200 bbls. at 1,653 feet. No. 9 Beaty was a 75-bbl. pumper at 1,550 feet and No. 13 a 40-bbl. pumper at 1,630 feet.

Colzado's No. 2 Eppright in the eastern end of the field is a 75-bbl. well at 1,720 feet, topping the Serpentine at 1,546 feet. Grayburg's Nos. 7 and 8 Comillion in the northern edge of the field are each dry at 1,774 feet and 1,710 feet and are abandoned. Grayburg has stopped drilling, the limits of the lease seeming to be marked.

Gulf Production Co. completions follow: No. 11 Beaty flowed 800 bbls. at 1,480 feet; No. 12 pumped 30 bbls. at 1,440 feet; No. 13 a 45-bbl. pumper at 1,500 feet; No. 14 a 30-bbl. pumper at 1,636 feet; on the Brewer 56-acre tract No. 8 is a 20-bbl. pumper at 1,550 feet; No. 9 40-bbl. pumper at 1,715 feet; No. 10 50-bbl. pumper at 1,715 feet; No. 1 20-bbl. pumper at 1,575 feet; on the Brewer 95-acre tract No. 14 60-bbl. pumper at 1,591 feet; No. 15 200-bbl. pumper at 1,592 feet; No. 16 100-bbl. pumper at 1,600 feet; No. 17 25-bbl. pumper at 1,600; No. 18 40-bbl. pumper at 1,600 feet; on the A. T. Cardwell No. 2 600 bbls flowing at 1,605 feet; No. 3 Gomillion 100-bbl. pumper at 1,580 feet; No. 1 Palmer dry at 1,382 feet; No. 1 Riddle dry at 1,667 feet; No. 15 Beaty 40 bbls. at 1,589 feet; No. 3 Cardwell 60 bbls. at 1,570 feet; No. 4 Cardwell 30 bbls. at 1,607 feet; No. 5 Cardwell 40 bbls. at 1,649 feet; No. 6 Cardwell 100 bbls. at 1,600 feet; No. 8 Cardwell 350 bbls. at 1,608 feet; No. 10 200 bbls. at 1,696 feet; No. 7 Cardwell bailing.

Gulf Co.'s Cardwell lease is in the edge of the field but its first seven producers had an initial production of 1,380 bbls. or nearly 200 bbls. each.

Humble Co.'s A. H. Cardwell No. 1 pumped 150 bbls. at 1,770 feet; Lang and others' No. 3 and 4 Cardwell each pumped 50 bbls. and No. 5 was dry. Mills Bennett's No. 9 M. L. Brewer pumped 50 bbls. (since sold to Witherspoon.)

Quaker Oil Co.'s L. A. Cardwell pumped 25 bbls. and its No. 6 Palmer 20 bbls. Harper and others' Mrs. A. H. Cardwell pumped 15 bbls. Lang and others' A. H. Cardwell No. 6 pumped 20 bbls. and No. 7 flowed 1,200 bbls. This Lang property was bought from Mills Bennett by Witherspoon. No. 8 on the lease is a 25-bbl. well.

Magnolia Petroleum Co. has the derrick up on the D. M. Day tract in Guadalupe County for a wildcat test south of the Southern Pacific tracks and north of No. 1 Manford, drilled and abandoned by the United North & South Co. a year ago. Magnolia's block extends nearly to the Southern Pacific tracks and it is considerably south of the Guadalupe County section of the Luling Field. The territory is being played on the theory that there is a second fault line running through that territory and paralleling to some extent the one along which the Luling Field is supposed to be situated. Magnolia's test will be started within a short time.

United North & South's No. 1 Shanklin, a deep test, encountered a cavity in the Edwards at around 2,500 feet which it is endeavoring to fill up with excelsior and other things. United North & South has drilled several wells a mile deep in the Luling Field and the Shanklin is scheduled to be another if it is successful in getting through the cavity. Such cavities in the Edwards are more or less frequent in the faulted zone that borders the Balcones fault. United North & South has standardized its Till deep test and is drilling again. It has drilled an offset to its No. 1 McKinney, which extended the field 500 feet. The offset is on the Stair lease and is down to the pay and ready to drill in. Another offset to the McKinney has been started on the Tiller lease to the north. These are drilling to the Edwards lime producing level.

M. O. Rayor has completed rigging up and has started drilling in No. 1 Inscore, that was started by the Seals Creek Oil Co. The well is about midway between the Luling Field and the town of Luling and will be drilled another 1,000 feet, which will carry it to the top of the Edwards lime.

Caldwell County

Witherspoon Oil Co. has plugged and abandoned No. 1 Kelly, carried in some reports as No. 1 Chesser, located south of the town of Lockhart. It was tested

(Continued on Page 125)

News of Mexican Fields

By George Blardone

TAMPICO, Mex., Aug. 14.—Mexican Petroleum Co., in the Ebano sector of the northern fields, has scored a splendid well in its No. 11 Chapacao, which is rated good for 20,000 bbls. at the very shallow depth of 1,558 feet. This is about the shallowest major producer ever drilled in the several pools that comprise the Ebano sector owned by this company. National Lines of Railways, drilling on its right-of-way through the Chapacao, is rushing up derrick for an offset, which will be its No. 19.

Apart from the completion above referred to, which came in as the week ended, the remainder is rather dull in tone. There were 20 wells completed during the week, of which 15 were failures and only 5 producers. Of the five producers, however, a new potential head production of 23,000 bbls. can be chalked up, which will help some in the slow descending production curve.

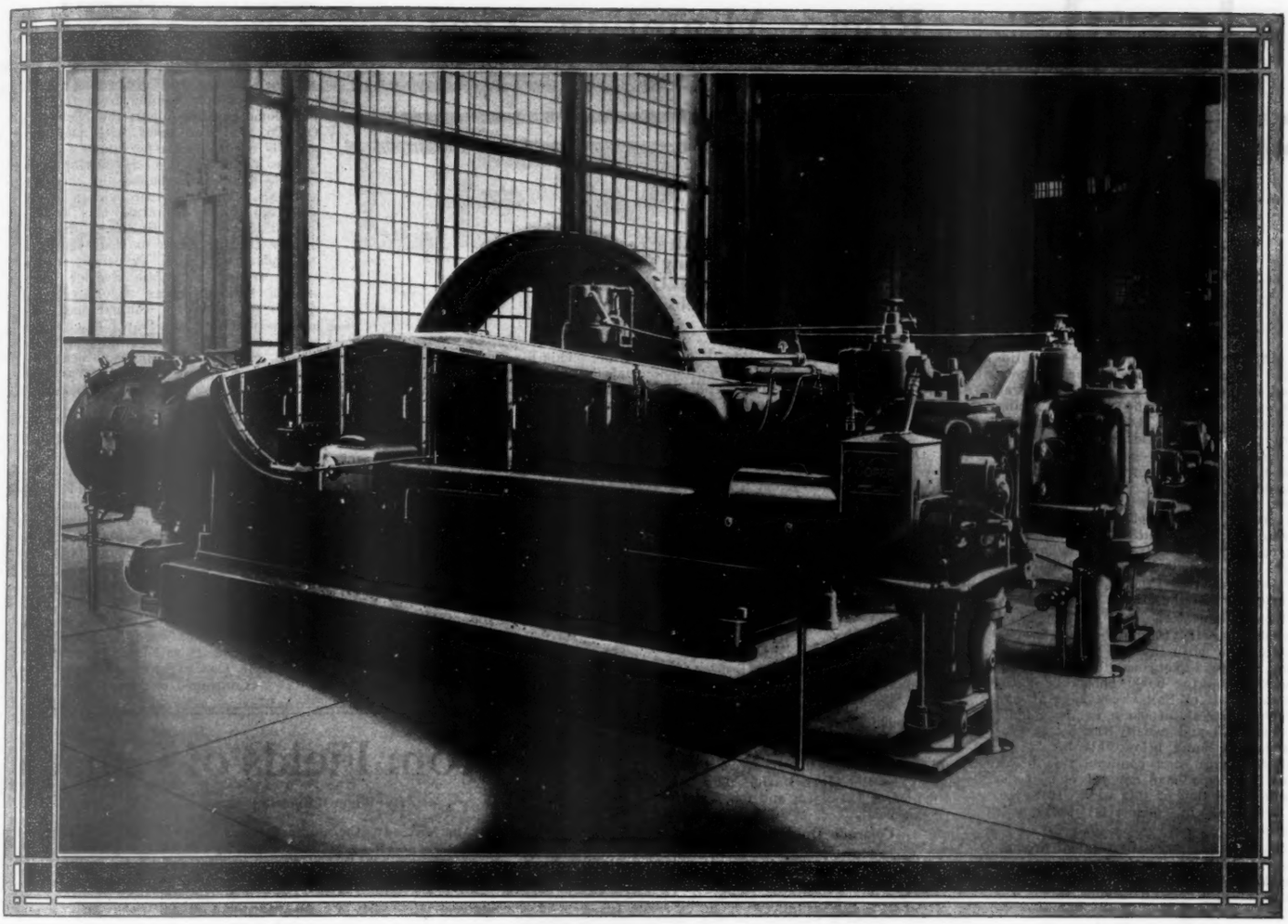
The other producers were: International Petroleum Co.'s No. 216, Lot 5 Cacalilao, is rated good for 1,200 bbls. at 1,760 feet, which is also not bad from the viewpoint of depth. Mexican Atlas Petroleum Corp., drilling again in its fraction of Lot 1, same sector, gets a flush of say 600 bbls. at 1,848 feet in its No. 3 there. To revert to the older districts, south of the Panuco River, Credito Petrolero, S. A., scored a 700-bbl. well in its No. 4 Tamante at 2,256 feet. Up in the Corcovado district, Mexican Gulf Oil Co. has a 500-bbl. well in its No. 7 Chapacao at 1,980 feet. Incidentally, the Gulf's No. 46, Lot 4 Corcovado, commented on in this correspondence as coming in for several thousand bbls. after being adjudged a dry hole, the well breaking as preparations were being made to plug it, suffice it that its head went off quickly and it might be possible that 100 bbls. can be secured from it now.

The Failures

The failures follow: La Corona Petroleum Co.'s No. 156, Lot 4 Cacalilao, drilled into salt water at 1,750 feet; Cochran and others, drilling No. 9, E. Maguabes, did the same at 2,235 feet; East Coast Oil Co.'s No. 40 Laguna de lap Milpa, salt water at 2,155 feet; International Petroleum Co.'s No. 210, Lot 5 Cacalilao, virtually a dry hole at 2,150 feet; Mexican Sinclair Petroleum Corp.'s No. 77, Lot 2, same sector, salt water at 1,975 feet; National Oil Co.'s No. 21 Chijoles, a dry hole at 2,490 feet; Transcontinental Petroleum Co.'s No. 21 Barbarena, salt water at 1,880 feet; Cosmos Oil Co.'s No. 57, Lot G Corcovado, finished a duster at 2,500 feet; Mexican Gulf Oil Co.'s No. 45, Lot 4, same sector, salt water at 1,600 feet; Mexican Petroleum Co.'s No. 20 Chapacao, in its Ebano sector, is plugging back for some small upper stratum production that may be possible at 1,950 feet, the drill stopping at 2,295 feet when the hole was hopeless for deeper drilling. National Lines, in its Chapacao right-of-way, finished its No. 13 for a duster at 2,458 feet. Transcontinental Petroleum Co.'s No. 17, Lot 6 Corcovado, is a duster at 2,270 feet; and in the State of Tamaulpis, at Los Esteros, north of Tampico, American International Fuel Co. has quit its No. 19 there for a duster at 2,050 feet.

In the South fields, the only two completions were by Huasteca Petroleum Co., its No. 64 Cerro Azul and No. 47

(Continued on Page 123)



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Rocky Mountain Area

By F. B. Taylor

Midwest Refining Co. finds new pool in center of Salt Creek Field, in Sundance, fifth producing sand at 2,896 feet. Same company's second well on Iles Dome, Colorado, is 480-bbl. producer from Lakota. Union's Blunck well, Fort Collins, 2,000-bbl. and Scott well making 1,100 bbls.

CASPER, Wyo., Aug. 15.—The Midwest Refining Co. has opened a new pool in the Salt Creek Field. This was discovered through the deep test being drilled on Section 23-40-79, in the central part of the field, which has gone through the Cretaceous and is now in the Sundance sand at 2,896 feet. The Sundance is showing for a commercial well, although no estimate can be had at present as the tools have only penetrated the sand about 14 feet, and it is expected that at least 50 feet more of sand must be drilled. The well is owned by the Salt Creek Producers Association, a subsidiary of the Midwest Refining Co.

This is one of the deep tests reported completed to the Dakota formation some months ago when the well found production in the Lakota sand that is considered good for 6,000 bbls. The producing sands at Salt Creek have always shown a streak of shale in the middle of the sand and usually the better production is found below this break. If the Sundance sand contains this break also, the tools have not yet opened the main production of this well. However, it will make a commercial well as it stands.

This strike makes the total of producing sands in the Salt Creek Field 5, besides the shale wells. The Shannon sand produces small wells around the edge of the field behind the Shannon escarpment; the first Wall Creek sand comes next with a pool in the central part of the field covering about 7 square miles; the second Wall Creek sand in the main oil bearing sand of the field and covers about 30 square miles; the Lakota sand area is still undefined and is expected to cover about 10 square miles. There are four more sands still below the Sundance, the Embar, Tensleep, Amsden and Madison, but the last two, at least, are considered to lie too deep for drilling with present day equipment. Also these four sands will likely hold black oil if found productive in Salt Creek, and this oil has such a low commercial value that there is no incentive to test the black oil sands at the present time. The Midwest is merely drilling the deep wells to obtain information on the lower sands, and is now producing the Lakota wells already drilled, as the company has sufficient production at present for its needs without the deeper sand oil.

Iles Dome Producer

The Midwest Refining Co. completed its second well in the Iles Dome in the Moffat Field of Colorado the past week, the well found production at 2,680 feet in the Lakota sand and is estimated good for 480 bbls. The oil is coming from a break in the sand and a shale streak. This well and the first producer of the Midwest are expected to warrant a pipe line being laid from the Prairie line on the Craig Dome to the Iles Dome, so that the present production can be sent out. Up to the present the Iles Dome has tanked all production on the lease.

The Midwest Refining Co. completed nine wells in the Salt Creek Field the past week. The Midwest Oil Co. also completed a small producer on Section 23-40-79 at 1,693 feet, and one on Section 35-40-79 that will make 10 bbls. from a depth of 1,207 feet. It also has a small well on Section 2-39-79 feet at 1,791 feet.

The Wyoming Associated Oil Co., drilling on Section 30-40-78, found a 50-bbl. producer at 1,923 feet, and has another 50-bbl. well on Section 25-40-79 at 1,578 feet. On Section 19-40-78, it has a second Wall Creek sand well that will make a small producer from a depth of 2,190 feet.

The Salt Creek Consolidated Oil Co. completed two wells on Section 3-39-79 that will make small wells on the pump, one came in at 1,909 feet and the other at 2,416 feet.

The Wyoming Oil Fields Co. has a well good for 58 bbls. on Section 25-40-79, at 1,600 feet.

The Carter Oil Co. completed a producer good for 50 bbls. on Section 8-38-78, in the second Wall Creek sand at 2,643 feet. This location is over the Shannon escarpment and close to the Carter camp on Section 17.

In Section 29-46-98, the Ohio Oil Co. completed a dry hole in the Grass Creek Field in the Big Horn Basin. The well was drilled to 1,252 feet and found nothing commercial.

Colorado Operations

The Colorado territory is uninteresting from the viewpoint of the small operator. The main operation is the Fort Collins Field and the large companies alone have backing sufficient to drill the deep wells there.

The Union Oil Co. of California practically controls the Fort Collins Field, as this firm has all the best part of the structure under lease and is the only firm that has put down a well to the sand to date. Some other firms have good looking tracts, the Carter Oil Co. and the Brendel & Ache interests and others, and these firms will likely come into production when they drill to the sand. The production of the Fort Collins Field is going by rail shipments to Salt Lake City, where the Utah Oil & Refining Co.'s plant is located, and to Florence, where the Continental and the Standard of Indiana have refineries. The shipments are averaging around five cars daily.

It takes so long to drill a well about 4,500 feet that the cost is a heavy item, so the oil firms are drilling as near the crest of the structure as possible and slowly feeling out the sand in order to stay away from the dry hole territory. The cost of one dry hole in that field is enough to disturb even the larger organizations.

The Blunck well of the Union Oil Co. of California is now running tubing to flow out the mud and fluid and is estimated good for 2,000 bbls. The Scott well is still bailing fluid through the tubing and is also making about 1,100 bbls. daily. These are the two latest completions in the Fort Collins Field. Due to the careful way in which the completions are brought in, these wells are not expected to be fully completed for several days.

Eastern Wyoming Wildcat

The Foreman Oil Co., drilling a wildcat well on the eastern edge of Wyoming on Rawhide Creek, near Lingle, in Goshen County, found the Wall Creek sands in place at a depth of 3,575 feet. The well is making a test of the Dakota formation. This finding of the Wall Creek sands is an oddity of geology in eastern Wyoming, as the sands are supposed to be thinned out to practically nothing in that region.

The Jupiter Oil Co. won the Land Office decison on a case of ownership of the mineral rights on Section 23-36-85. The Jupiter Co. drilled one well on this section several years ago and found gas, later the land was leased to the Midwest Refining Co. and the latter firm is now drilling a test there. A homesteader claimed the mineral rights under this section through his having taken up a homestead claim there, and the Land Office decided in favor of the oil company.

The Sand Draw pipe line that the New York Oil Co. is laying from the Sand Draw Field to Poison Spider, is making good time. The past week an additional force of welders were brought up from Denver and sent out on the line to help with the welding, and the line is expected to be carrying gas to Casper by the middle of September. With this new supply to draw upon and the additional supply coming from the Teapot Dome gasoline plant, the New York Oil Co. will find itself with more gas than is needed in Casper alone.

The Ohio Oil Co. is having some trouble over some clauses in the Cody franchie. The Ohio, through its subsidiary, the Rocky Mountain Gas Co., expected to lay a gas line from the wells in the Oregon Basin to Cody to supply that place with gas. A permit was secured from the Public Service Board and a franchise was negotiated from Cody, but the city council had some clauses placed in the franchise objectionable to the oil company and a delay resulted. In the meantime another applicant for a franchise has appeared before the Cody council and the whole matter seems in the air.

Ohio Oil Co. as a Refiner

The Ohio Oil Co. will build a refinery at Artesia, N. M., to handle the crude production of the Artesia Field. This marks the beginning of the Ohio Co. as a refiner, for heretofore this company has engaged in the production of oil only and for many years was the main wildcatting organization of the Standard family in the Rocky Mountains.

The location of the new refinery will be at Dayton, a small town 8 miles from Artesia and the point on the railroad where the Illinois Pipe Line Co.'s new line will have its rail end. The Illinois Pipe Line Co. has already placed one

(Continued on Page 132)

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., Aug. 15.—In the Sweetgrass Field, southern Alberta, Canadian Oil & Refining Co. (Rogers-Imperial), Section 29-1-11w4, got the Madison lime at 2,804 feet with a large additional gas production. The production in the lower sand is estimated at 45,000,000 feet a day, with 70,000,000 feet a day in the two sands. The gas was allowed to blow open 10 hours, cleaning the well, after which it was shut in. When the first gas was encountered, around 2,500 feet, it was mudded off and the test carried deeper for oil, the drilling contract with the Wild Butte Oil Co., of Calgary, stipulating that the test was to be carried to the Madison lime or until production was secured. For some weeks past the drill has been working in a hard cap rock, supposed to overlie the Ellie sand, but when the cap rock was penetrated, a formation identified as the Madison lime was encountered. The well finished with a 4-inch hole, which would make further drilling difficult, if not entirely impracticable. The location of the Rogers-Imperial test is 32 miles east of Coutts and 5 miles north of the Sweetgrass Hills, being due north of the Glayde Belle-Brown gasser in Montana.

The possibility of oil in the Madison lime in this area may be tested by the Imperial Oil, Ltd., Dead Horse Coulee No. 2, a mile north of the Rogers-Imperial. At the time the contract for deepening the Rogers-Imperial was let, the Madison lime was regarded as unproductive; but since then the Royalite No. 4 well in the Turner Valley Field has encountered wet gas and crude naphtha in this formation. Dead Horse Coulee No. 2, which is 200 feet lower on the structure than the Rogers-Imperial, is reported drilling at 2,300 feet. At Erickson Coulee, some miles to the west, Imperial Oil Ltd., is unloading material and drilling a water well.

East Central Alberta

In east-central Alberta, in the Irma-Wainwright Field, British Petroleum's No. 3-B, Section 29-45-6w4, looks like a fair commercial producer, with 300 feet of 24 gravity oil in the hole.

In the Many Islands Lake Field, northeast of Medicine Hat, Many Islands Oil & Gas Co.'s No. 1 Drazan is reported drilling at 3,155 feet with a small bailing production, estimated at 10 bbls. a day or less. There is also some gas in the upper sands. The test will be carried down for more oil production.

In the Turner Valley Field, Vulcan Oils, Ltd., is reported down 800 feet and running double tower and making between 50 and 75 feet a day. The 15½-inch casing will be set at 1,000 feet.

In the Ontario Fields, the crude oil bounty office at Petrolia was closed August 15, following the discontinuance of the Government bounty. W. D. McDermid, bounty officer, will probably be transferred to Sarnia or Ottawa.

In the Lambton Fields, the High Pressure Oil & Gas Co.'s No. 2 deep test at Rock Glen, near Arkona, which recently resumed drilling, has a fishing job. The test is reported down about 3,700 feet.

The Union Natural Gas Co., Ltd., of Chatham, has purchased the plant and property of the Sarnia Gas Co., Ltd., natural gas distributors in Sarnia, at a price stated to be $230,000. Steps will bet taken for the gradual winding up of the old company and the merging of the Sarnia plant with the Union organization. J. B. Williams and the present staff will continue in charge of the Sarnia office.

Gasoline Tax Gain

It is estimated that the increased gasoline tax in the Province of Quebec this year will yield a revenue of $750,000. Last year, with a tax of 2 cents a gallon, the revenue was $520,000, but this year the tax was increased to 3 cents.

The Canadian Western Natural Gas, Light, Heat & Power Co., of Calgary, reports for June, 1925, gross earnings of $43,159, compared with $46,428 for the same month of 1924. An increase of $271,108 was shown in the gross earnings for the nine months ending June 30, 1925, which stood at $1,077,548.

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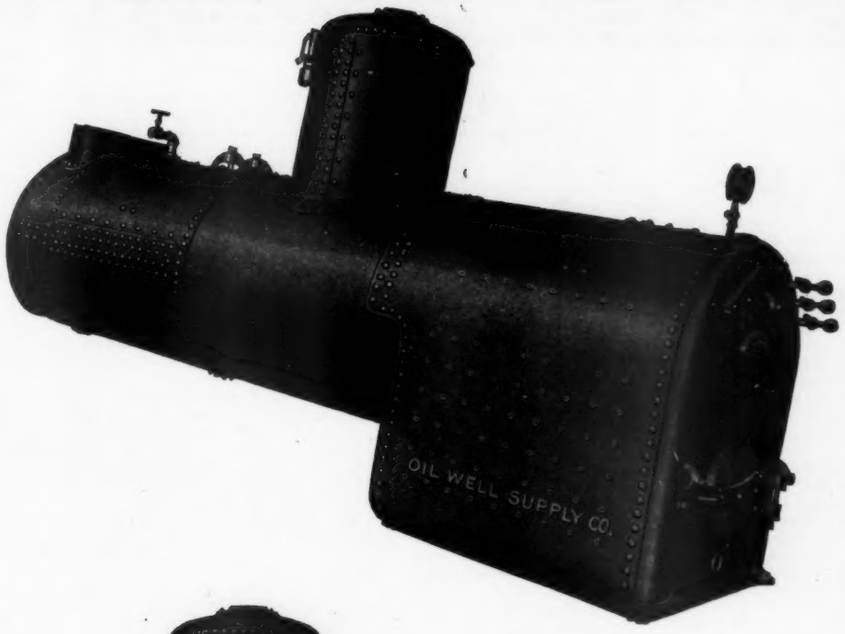

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Pennsylvania-West Virginia

By D. S. Wakenight

Natural Gas Co. of West Virginia well in Greene County, Pennsylvania, makes 350 bbls. first 24 hours, now reported 258 bbls. Perry Petroleum Co. completes 125-bbl. well in Perry County, Ohio. Carter Oil Co. has 50-bbl. producer, Doddridge County, West Virginia. Hope Co., 40 bbls., Marshall County.

PITTSBURGH, Pa., Aug. 17. — The most important strike of the week was made in Morris Township, Greene County, Pennsylvania, when the Natural Gas Co. of West Virginia drilled in its second test on the T. S. Rutan farm. When drilled into the sand the well began to flow and the gas caught fire from the boiler and one of the workers on the well lost his life and three others were badly burned. The well produced 350 bbls. the first 24 hours and at last report, 258 bbls. Since the first of the year this has been the largert well completed in the East.

West Virginia Has Fair Producers

The West Virginia fields are completing a few better than average producers. They are few and far between and for the most part located in the old producing districts.

In Center district, Wetzel County, the Hope Construction & Refining Co. completed in the Gordon sand a test on the Clarence Yeater farm, a natural producer good for 25 bbls. a day. In the same district, this company's test on the John Pyles farm is producing 15 bbls. a day from the Gordon sand. In Clay district, the Carnegie Natural Gas Co. has a rig up on the Bisset heirs' farm. In the same district, the Manufacturers Light & Heat Co. has a duster at a test on the Burley-Enans farm. In Grant district, the Wiser Oil Co. is due in the sand at a test on the J. J. Mason farm. In Magnolia district, Rosenbloom Brothers are drilling a test on the Mary Hawkins farm. In Greene district, the West Virginia Consolidated Oil Co. started to drill a second test on the Stephen Morgan farm. In the same district, T. C. & M. R. Rawe have a duster in the Gordon sand at a second test on the W. A. Morgan farm.

In West Union district, Doddridge County, the Carter Oil Co. completed in the Big Injun sand No. 5 on the I. M. Smith farm. It is good for 50 or more bbls. a day. The location is 500 feet north of No. 4 on the same farm. Doddridge County is furnishing more fair producers than any other county.

On Fish Creek, Liberty district, Marshall County, the Hope Construction & Refining Co.'s test on the Ellis Kemp farm has been completed and shot in the Gordon sand, producing 40 bbls. a day. On Little Grave Creek, Washington district, the Wasmuth-Callahan Oil Co. has a 3-bbl. pumper in the Big Injun sand at No. 22 on the Rogerson farm.

In Central district, Doddridge County, F. J. Gillespie completed a second test on the C. Williams farm, good for 15 bbls. a day in the Big Injun sand. In the same district, Boyce & Dotson have a gasser in the same formation at a second test on the T. V. Smith farm.

In Clay district, Ritchie County, John

Showing for a Light Pumper

B. Yates & Co. completed in the Big Injun sand No. 5 on the R. T. Haymond heirs' farm. It is showing for a very light pumper. In the same district, the Stephens Drilling Co.'s second test on the Jacob Bradford farm is a duster in the second Cow Run sand. In Clay district, Monongalia County, the South Penn Oil Co. is cleaning out to drill to the lower sands No. 11 Simon Tennant.

On Spring Creek, Spencer district, Roane County, Godfrey L. Cabot's test on the W. T. Arnott farm is through the Berea grit and dry. In Union district, Clay County, the Eastern Carbon Black Co. has a good gasser in the Big Injun sand at No. 8 on the J. Craig & Son's farm. In Henry district, the Ohio Fuel Gas Co. has the rig completed and started to drill a second test on the J. B. Casto 220 acres.

In Union district, Tyler County, Holmes Brothers' test on the J. D. Holmes farm, formerly a gasser in the Big Lime formation, has been drilled down to the Big Injun sand and showing for a light pumper. On Buff Lick Run, Big Sandy district, Kanawha County, the Buff Lick Oil & Gas Co. started to drill a test on the J. M. Bird heirs' farm. In Elk district, the United Fuel Gas Co. started to drill on the W. H. Canterbury farm.

Late Completions

The one section in West Virginia that is attracting any attention is the salt sand development at the town of Scott, Scott district, Putnam County. In this pool, town lot wells are being completed with a good deal of regularity and new work starting. On Poplar Fork, inside the corporate limits of Scott, the Charleston-Dunbar Gas Co. completed and shot a test on the George Pine lot and good for 15 bbls. a day. Located 600 feet east of this well, W. H. Kirtley and others completed a test on the C. & O. R. R. right-of-way good for 13 bbls. a day in the salt sand. The Wolver Oil Co. has the rig completed for a second test on the H. P. Pine lot. More than a mile to the southwest of developments, the Charleston-Dunbar Gas Co. is drilling a wildcat. On lots in the town of scott and adjacent farm there are 15 or more wells drilling and rigs up ready to start.

In Logan district, Logan County, the South Penn Oil Co.'s No. 13 on the Yawkey-Freeman farm is a gasser in the Big Lime formation, good for 1,500,000 feet. In No. 9, on the same tract, is a gasser in the Big Lime and Berea grit good for 1,000,000 feet. In the same district, this company is fishing at 1,373 feet at a test on the Guyan Mercantile Co.'s property. The Wacatock Oil & Gas Co. is due in the sand at a test on the Martha Chambers farm.

In Greene district, Wetzel County, the Silver Hill Oil Co., to make its test complete on the William Moore farm, drilled through the Gordon sand to a total depth of 2,826 feet. It is dry in all formations and abandoned. In the same district, the Carnegie Natural Gas Co. is hauling rig timbers to a location on the John Springer farm. In Coal Township, Harrison County, Horner Brothers are fishing at 2,300 feet at a test on the S. J. Flannigan farm.

In Sheridan district, Calhoun County, the White Pine Oil & Gas Co. has a gasser in the Big Injun sand at a test on the I. L. Simers farm. In Smithfield district, Roane County, Godfrey L. Cabot has a Big Injun sand gasser at a test on the F. F. Harless farm. In Spencer district, Mr. Calbot has drilled his test on the W. T. Arnett farm through all sands and dry. It has been abandoned.

In Clay district, Ritchie County, the Rico Oil & Gas Co.'s second test on the W. H. and D. M. Bradford farm is dry in the Big Injun sand. On Jones Creek, Sherman district, Boone County, the Pure Oil Co. has put No. 16 on tract B of the Lafollette, Robson & Prichard tract to pumping and producing 35 bbls. a day. In the same district, the same company is due in the Berea grit at Nos. 203 and 211 on the Williams Coal Co.'s tract. In Peytonia district, the Owens Bottle & Machine Co. is drilling a test on the Lennig heirs farm. In Scott district, the same company is drilling a second test on the J. D. Perry farm. In Crook district, this company has the rig completed for a test on the Roxey Linville farm.

In Grant district, Cabell County, the Harshbarger Oil & Gas Co.'s No. 4 on the Sarah A. Roberts farm is a fair gasser in the Berea grit. The same company is drilling to the lower sands its second test on the Morris Jordan farm. In Lee district, Mingo County, the Pure Oil Co. is drilling a second test on the United Tucker Coal Co.'s tract.

New West Virginia Work

In Grant district, Ritchie County, the Big Four Oil Co. is rigging up to drill a test on the Bowie heirs' farm. In DeKalb district, Gilmer County, S. G. Roberts & Co. are rigging up on the Albert S. Beall farm. O. C. Henry and others started to drill on the W. R. Brown farm. In Union district, Pleasants County, L. C. White is fishing at his test on E. L. Newland farm.

In Skin Creek district, Lewis County, the Mud Lick Oil & Gas Co. has the rig completed on the M. E. Bott farm. In Collins Settlement district, the same company has a rig up on the S. L. Cunningham farm. In Grant district, Cabell County, the Aetna Oil & Gas Co. is drilling on the E. L. McCoy farm. In Barboursville district, Grant Sipe and others are drilling near the top of the Big Injun sand at a test on the R. J. Armstrong farm. The Commercial Gas Co. is drilling on the Swann heirs farm.

In New Milton district, Doddridge County, D. W. Gribble has moved in drilling tools to a location on the F. P. Burbridge farm. In Ten-Mile district, Harrison County, the Vesper Gas Co. is fishing at 2,765 feet on the Nora B. Lanhan farm. In the same district, the Hope Construction & Refining Co. is building the rig on the H. D. Nutter farm. In Clark district, B. W. Bowman started to drill on the W. C. Kester farm. In Coal district, Horner Brothers are fishing at 2,300 feet on the S. J. Flannigan farm. In Union district, Tyler County, Albert Neely has started to drill on the J. C. Allen farm. In Liberty district, Marshall County, the Manufacturers Light & Heat Co. has made location on the William & Helen Ritter and J. D. and M. Myers farm. In Spencer district, Roane County, Godfrey L. Cabot is due in the Berea grit on the W. T. Arnett farm. In Smithfield district, Godfrey L. Cabot is due in the Big Injun sand on the F. F. Harless farm.

Southeastern Ohio

In the deep sand territory in southeastern Ohio, in Section 35, Coal Township, Perry County, the Perry Petroleum Co. completed and shot in the Clinton sand, No. 4 on the Gardner-Ellis farm. The first 24 hours the well produced 125 bbls. The location is 1,400 feet west of the Sunday Creek Coal Co.'s No. 124.

Pumper and Gasser in Hocking

In Section 5, Green Township, Hocking County, the Charties Oil Co. completed and shot in the Berea grit, No. 3 on the Carolina Walters farm, not good for more than 2 bbls. a day. In the southeast quarter of Section 27, Falls Gore Township, the Oldtown Oil & Gas Co.'s test on the Sarah Nutter farm is completed in the same formation and is a gasser, estimated at 250,000 feet. The location is 700 feet north of the same company's second test on the George Tucker farm. In Liberty Township, Washington County, Haldman & Co. started to drill another test on the T. E. Williams farm.

In Section 21, Franklin Township, Licking County, J. T. Bebout completed and shot in the Berea grit a test on the Anna DeLong farm. It is 1½ miles northwest of the Midland Oil Co.'s test on the Homer Cooperrider farm and not good for more than 2 bbls. a day.

In the southwest quarter of Section 27, Falls Gore Township, Hocking County, the Kurchick Oil & Gas Co. found 27 feet of Clinton sand and only a little oil at a test on the Harry E. Starr farm. This location is 1,800 feet north of the Griffin Producing Co.'s production on a part of the same farm. In Section 8, Union Township, Muskingum County, the Sun Oil Co.'s test on the J. W. Mason farm is a duster in the Big lime formation. In Lot 74, Athens Township, Athens County, Bickle and others completed in the Berea grit a test on the O. C. Chapman farm. It is a gasser good for 1,000,000 feet and showing a little oil. In Section 2, Alexander Township, the Stewart Oil & Gas Co.'s test on the W. Louther farm is a duster in the Berea grit. In Section 5, Killbuck Township, Holmes County, the Empire Gas & Fuel Co. has a 10-bbl. pumper at a test on the Dell Waltman farm. In Section 19, same township, the East Ohio Gas Co. is drilling a test on the Byron Middaugh farm. In Monroe Township, the Ohio Fuel Gas Co. is due in the Clinton sand at a test on the Albert Bell farm. The same company is drilling in the top of the Clinton sand at No. 4 on the B. F. Uhl farm.

Coshocton Wildcat

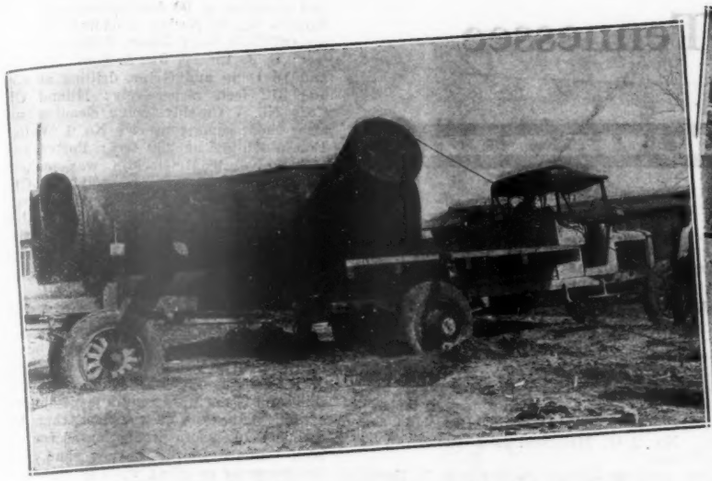
In Section 28, White Eye Township, Coshocton County, Bell Brothers and others are down 550 feet at their wildcat on the Daniel Gribble farm. A producer in the Berea grit is expected at this location. In Newton Township, Licking County, Roy B. Decker and others have started to drill a test on the Mary E. Weiss farm.

In the southeast quarter of Section 24, Washington Township, Hocking County, Ohio, the Gordon Oil Co. has drilled through the Gordon sand its No. 4 on the Robert Stone farm. It is showing for a very light pumper. In the same location and township, the Ohio Falls Oil & Gas Supply Co. has the same luck at No. 3 on the John Hoskins farm. In Section 12, the Preston Oil Co. has the rig completed for a second test on the W. H. H. Rauber farm. In Falls Gore township, the Carter Oil Co. has a rig upon the Clinton Webb farm. In Section 27, the Webb Oil & Gas Co. has the rig completed for a test on the Webb heirs' farm. In Section 28, the Kurchick Oil & Gas Co. is drilling a test on the Harry K. Starr farm. In Section 21, Laurel Township, George H. Kelch and others have started to drill a test on the Brashares farm.

In Lot 80, Athens Township, Athens County, the Pure Oil Co. has completed in the Berea grit, No. 3 on the Louisa Gadnal farm. It is a very good gasser and showing a little oil. In the same section, Watkins & Co. started to drill a test on the E. J. Jones farm. In Alexander Township, the Stewart Oil & Gas Co. is drilling a test on the W. Louther farm. The best of the late completions in this county are in this township.

In Section 17, Prairie Township, Holmes County, the East Ohio Gas Co. completed in the Clinton sand a second

(Continued on Page 118)

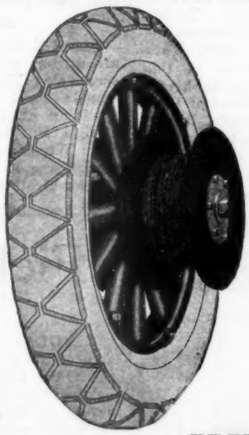


One man loaded this 10,000 lb. boiler in 30 minutes with the R-B Winch

This 2460 lb. cable is being loaded by one man sitting in the driver's seat

Erecting a 35-foot telephone pole. One man did it with an R-B Winch

THE PICTURES TELL THE STORY OF THE



R-B WINCH

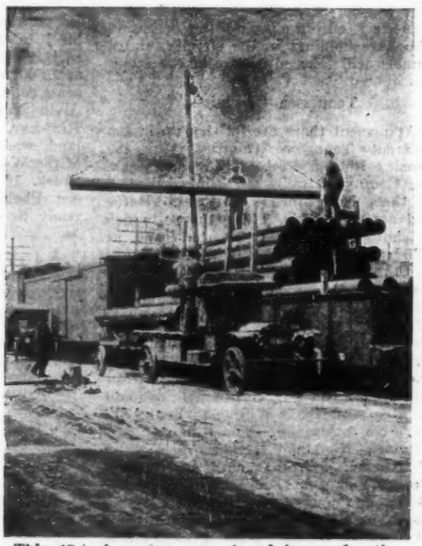
Does not require jacking up of wheel. Ford Pattern

Now Ready.

Your Local Ford Agent will give demonstration. See him

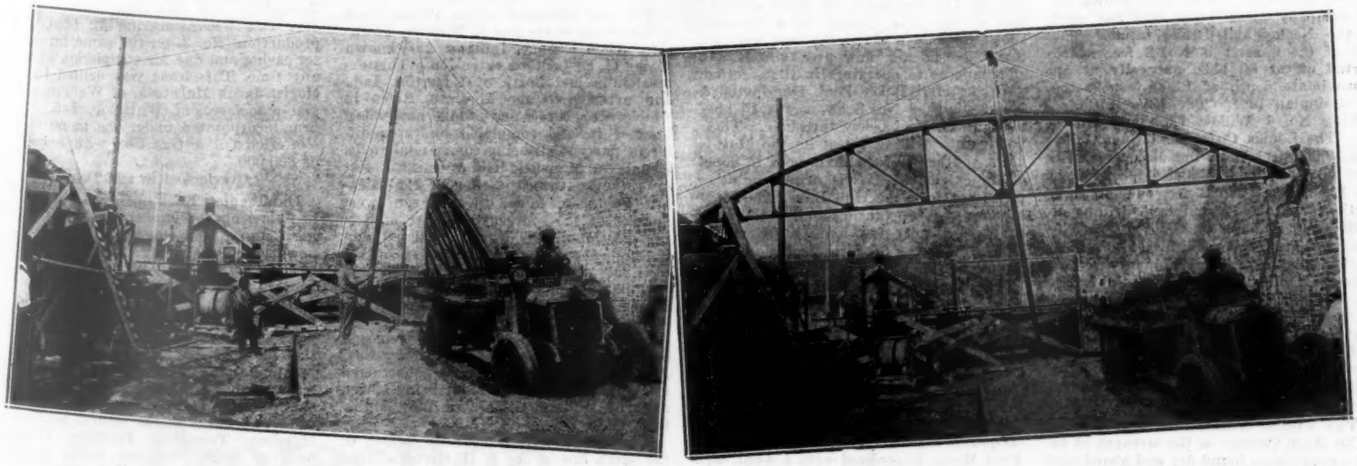
THE BRADEN COMPANY

Tulsa, Okla.



This 15-inch casing was ginned in one-fourth ordinary time with an R-B Winch

Below: 3500 lb. truss is shown as it leaves the truck and after it has been hoisted to position by the R-B Winch



Kentucky—Tennessee

By Vern T. Whitney

Consolidated Gas Co. well in Beaver Creek Pool, Barren County, estimated 25 bbls. Central Southern Oil Co. has showing in Jett sand in Owensboro Field and being drilled to Barlow sand. Dillon & Wetzel well in Wayne County showing to 25 bbls. Thirty-two rigs up in ten Tennessee counties.

BOWLING GREEN, Ky., Aug. 17.—Field reports from the Kentucky-Tennessee area show another quiet week, although considerable drilling is going on. Many operators are making plans for extensive development later and much wildcatting can be looked for, especially in the portions of Tennessee extending from Clay County east to Morgan County. The completion of the pipe line to Sunbright, in eastern Tennessee, and the line being built from the Tinsley Bottom Pool to a point on the Tennessee Central Railway by the Stoll Oil Refining Co. has been very encouraging to the operators who have holdings in the vicinity, and a number will take advantage of the facilities offered.

Tennessee Operations

At present there are 32 rigs up in ten different Tennessee counties. In the Tinsley Bottom Pool of Clay and Jackson County 13 wells are being drilled, 9 of them being initial ventures. Dafoe and associates' No. 1 Osgathorpe, which is shut down in the Trenton sand at 1,302 feet, will be shot within 10 days; A. E. Edenfiel's No. 1 Spivey, 1½ miles west of the discovery well, is shut down with a heavy gas flow in the cave sand; White Plains Oil & Gas Co.'s No. 1 Brown, at Bennett's Ferry, is nearing the Pencil Cave. Ackerman's No. 1 Hammond, 1 mile east of the Williams; Reape and others' No. 1 D. C. Mitchell, one-half mile east of No. 3 Williams; Young Oil Co.'s No. 1 Arms, at Bennett Ferry; McClintock, Reed and Heckathorne's No. 1 T. Hogan, at the mouth of Sulphur Creek; Young & Young's No. 1 Marcum; Dixon & Cooksey's No. 1 Rich, 2 miles north of the Brown test, were drilling at unknown depths. Dafoe's No. 5 Hamp Lynn, No. 6 Williams and No. 3 Draper and the Rex and Pyramid's No. 2 Draper are all nearing completions.

Recent completions in Morgan County, Tenn., have stimulated drilling activities as well as being the direct cause of several major companies sending scouts into the new field near Sunbright to pick up acreage. So far four wells have been drilled by the Russell Producing Co., all making producers. Two were drilled on the company's own lands and one each on the Neeley and Drake farms. The best of the quartet is No. 2 fee, which started off at 60 bbls. naturally at an approximate depth of 1,300 feet in the Mississippian lime. The Russell Co. is drilling No. 1 Widow Ellis and No. 3 fee. The Louisa Co.'s No. 1 Sam Galloway, 7,000 feet from the discovery well, was reported down 1,150 feet; Sunbright Oil & Gas Co.'s No. 1 fee, one-half mile southwest of the Russell well, drilling at 1,500 feet; Indiana parties' No. 1 Griffith, one-half mile southwest of Sunbright, spudding; Knoxville parties' No. 1 test, 3 miles southwest of Sunbright at Glade, spudding; Ensinger Syndicate's No. 1 Enright, in the Crab Orchard district, spudding. Toomey, Phelps and others' venture near Mill Springs and the Bonecamp Oil Co.'s well near Sunbright were going ahead at unknown depths.

Two wildcat tests drilled near Liberty in De Kalb County on the strength of an oil seepage were found dry and abandoned at about 350 feet. The first test was drilled on the Overhall tract, 1 mile north of Liberty, and the other 1 mile northeast of the Overhall. A third location has been made but has not as yet been started. M. B. Williams, who owns a large block of acreage 4 miles north of Liberty, has made a location which will be commenced about September 1. In Putnam County, Clarke and others have started drilling their second test near Double Springs. No. 1 is a gasser.

Other Tennessee Tests

The Tennessee Stave & Lumber Co. has started No. 1 Tan Bark, near Pall Mall in Fentress County, and intends carrying it to the Trenton sand expected at 1,800 feet unless oil is found. In this same county Pat Smith is drilling on the Alvin York tract, on the Alvin York Highway. Alvin York, owner of this land, was one of the outstanding heroes of the World War. At the Head of Wolf Creek, 14 miles west of Oneida, Anderson, Phelps & Toomey's test was getting ready to spud.

Week's Work

A resume of the week's work in Kentucky and Tennessee, compared with last week, shows 5 less completions, 4 fewer producers, a decrease of 158 bbls. in flush output, 3 less dry holes and 2 more gas wells. The wells were distributed by counties as follows:

County—	Comp.	Wells	Prod.	Dry	Gas
Barren	9	7	94	2	0
Owensboro district	4	2	18	2	0
Warren	2	1	6	1	0
Wayne	2	1	25	1	0
Floyd	2	0	0	0	2
Johnson-Magoffin	2	2	16	0	0
Lawrence-Johnson	1	1	10	0	0
Cumberland	1	1	5	0	0
Allen	1	1	8	0	0
Lee-Owsley	1	1	2	0	0
De Kalb, Tenn.	2	0	0	2	0
Putnam, Tenn.	1	0	0	0	1
Total	28	17	184	8	3
Last week	33	21	342	11	1
Difference	5	4	158	3	2

Western Division

Barren County as usual made the best record of the week in the western division, showing seven producers out of nine completions. The best was the Consolidated Gas Co.'s No. 5 Depp, in the new Beaver Creek Pool, north of the Hall Baker district. It started off making 25 bbls. at 112 feet below the shale after 12 feet of pay was treated to a 30-quart shot. This is perhaps the best well yet completed in this new area and it will add impetus to operators in that section.

In the Hall Baker Pool, Harrington & Norris finished No. 8 Evans for 15 bbls. flush at 110 feet below the shale. These parties are drilling a test on the Mattox heirs, southeast of the main pool, in hopes of an extension. Wells drilled in other directions from the Hall Baker Pool have all proved disappointing and, if the Mattox is dry, very few more wells will be drilled, if any, to further explore that immediate vicinity.

The Emery-Moore Pool west of Glasgow came to the fore with five completions, four making producers. The Star Oil Co.'s No. 32 Ritchie is estimated good for 15 bbls. at 590 feet, 185 feet below the black shale; Ziegler Brothers' No. 8 Taylor Mansfield made a like amount its first pumping at 580 feet. The sand at 185 feet below the shale was shot with 30 quarts of nitro. On the Howard farm, Fred Moore is credited with a 4-bbl. well at 471 feet after shooting 12 feet of sand with 30 quarts of nitro. This operator's No. 3 Gassaway test, 5 bbls. at 425 feet. The Houchins Leasehold Co.'s No. 2 G. Mansfield is a duster at 577 feet.

In the Gorby Pool, Lewis J. Emery, Jr., & Sons made a 15-bbl. strike in No. 15 Depp and Greer in a sand at 109 feet below the shale. Porter and associates' No. 8 McGlocklin drilled from 60 feet below the shale, where it made 10 bbls. naturally, to the deep sand failed to show any better results.

The semi-wildcat of Smith & Son on the Jolly farm near Coral Hill was abandoned when both the shallow and deep pays were found barren.

Drilling Wells

Star Oil Co.'s Nos. 35, 36, 37 Ritchie are drilling at 300, 140 and 60 feet, respectively; Nos. 33 and 34 were being tested; Fred Moore's No. 10 Travis, spudding at 20 feet; Craig, Smith & Craig's No. 16 Smith, spudding at 60 feet; Wiggins & Gillespie's No. 11 Scott, progressing at 50 feet below the shale; Ziegler Brothers' Nos. 7 and 9 T. Mansfield, drilling at 110 feet below the shale and spudding at 90 feet, respectively; P. Kopel's No. 12 Neeley, spudding; Esslinger Oil Co.'s No. 6 Jones, drilling at 130 feet; L. J. Emery, Jr., & Sons' Nos. 15 and 16 Depp and Greer, drilling at 450 and 312 feet, respectively; Hiland Oil Co.'s No. 7 Cassidy, being cleaning out after shot; same concern's No. 1 Walter Bales, drilling at 260 feet; Porter and others' No. 9 McGlocklin was making headway at 200 feet; Consolidated Gas Co.'s No. 6 Depp, spudding; Harrington & Norris' No. 1 Mattax, drilling at 300 feet; Wood Oil Co.'s No. 1 Taylor, drilling in the sand and No. 7 John Church was being drilled at 400 feet.

Owensboro District

The feature news from the Owensboro district, comprised of Hancock, Ohio and Daviess Counties, is the showing made by the Central Southern Oil Co.'s No. 1 J. R. Ellis is the Jett sand. Although this sand is not producing a large amount of oil, it bears out the fact that the Swope Pool, where production so far has been confined to the Barlow sand, may develop some excellent wells in this shallow pay. The Ellis well also serves to extend production toward the Collier Station Pool. This test will be carried on down to the Barlow sand before being classed among the producers.

At Collier Station, the Triangle Oil Co.'s No. 1 Purcell, an offset to the Evans lease, is dry and abandoned at 600 feet.

In the Pellville Pool, the Kentucky Oil Co. brought in No. 18 Amanda Stewart, offsetting the Taylor lease, in the Barlow sand at 750 feet, where it is pumping 10 bbls. The Leeper Oil Co.'s No. 2 H. D. Brown, west of No. 3 Bert Thompson, is pumping 8 bbls. from the Jett sand at an approximate depth of 450 feet.

I. N. "Ike" Harkless' No. 1 Kate Phillips, east of the Lafe Payne, in the Hurricane district, was reported dry and plugged at 742 feet.

(Continued on Page 66)

Fields of the Central West

By Whit

FINDLAY, Ohio, August 17.—In the area of the Central West Field, north of the Ohio River, including central and northwestern Ohio, Indiana and Illinois, a total of 36 wells were reported for the week with a flush production of 292 bbls. 9 dry holes and 11 gas wells.

The most interest prevailing in this section of the field, that is, the Trenton Rock portion, is centered along the Ohio and Indiana State line, miles to the north of the old Lima-Indiana Field, and brings forth something new to develop, with an outlook for producers above the average. These recent finds look very much as though they would prove extensions to the northwest of the Payne Field, which is in the western part of Paulding County, and less than 4 miles to the east of the State line.

The new extension to the Payne Field is across the State line in Maumee Township, Allen County, Indiana, and known as the C. E. Ledford extension. This extension is just north of Edgerton, Ind., and extends to the Maumee River in which area three new wells have been brought in and completed by three different parties, all being commercial wells. The West Mansfield Oil & Gas Co. test near the southwest corner of the Richard Johnston farm, in the southwest quarter of the southeast quarter of Section 28, Maumee Township, Allen County, and about 1 mile southeast of the town of Woodburn, topped the Trenton at 1,426 feet and found the oil at 86 feet in the sand. The well made considerable water which has been easily handled through 2-inch tubing and is reported making better than 50 bbls. of oil a day. Additional tankage is being constructed at the well. The new well is being looked after by William Gilbert, of West Mansfield, Ohio.

The second well is near the center of the south line of the J. H. Gerbers farm, in the southeast quarter of Section 16, Maumee Township, and over 1 mile in a straight line northeast of the town of Woodburn, 1¼ miles north and one-fourth mile east of the well on the Johnston farm. This test was drilled by A. S. Cochran, H. P. Manion and E. G. Bechtel. Trenton was topped at 1,444 feet and drilled in 29 feet and shot, after which it was deepened to 52 feet in the sand, where the second pay was found and a very small amount of salt water. This oil is green and the lightest gravity yet found in or near the Payne Field, and estimated around 50 bbls. This test is approximately 10 miles northwest of Payne and makes intervening territory look worth the drilling.

The third test is near the northwest corner of the H. D. Helmke farm, in the northeast quarter of Section 34, Maumee Township, and has been pumping for over two weeks, making 12 bbls. daily production. No. 2, on the same farm, has set casing and due for completion at most any time. This lease was drilled by Geologist Jacob McIntosh, of Warren, Ohio, and associates, of Waterloo, Ind. This firm incorporated under the name of the Waterloo Oil & Gas Co., with a capital of $25,000.

Overlooked in Old Days

Old Trenton Rock operators that failed to follow up development work in Paulding County, Ohio, 25 years or more ago, now realize that they overlooked a good bet. In all the old wells drilled in the western section of this county, none were real dry holes, as all had favorable showings. Some 35 years ago a well was drilled near the reservoir just out of Antwerp, that pumped 15 bbls. the third day's pumping, and had a flush of 45 bbls. when drilled in and later was tested out again and showed 15 bbls. Good showings were also found in the central portion of Harrison Township, Paulding County, but the large producers being at that

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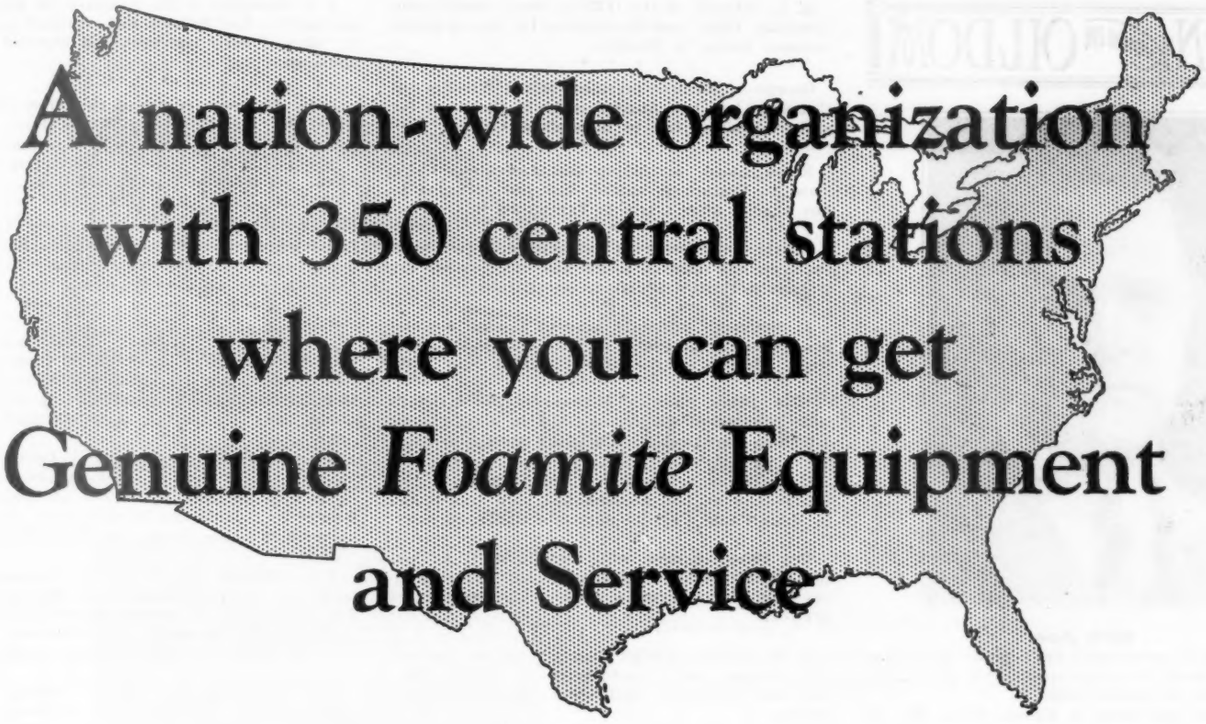

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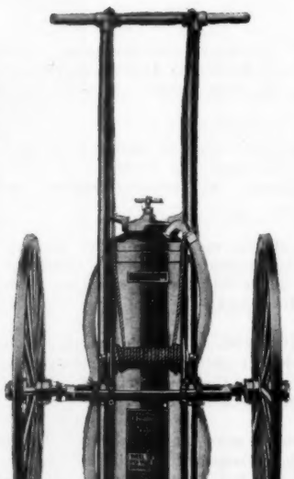

The new Foamite *Metered Type Engine—first 40-gallon engine to bear the Underwriters' label of approval for both Class A and Class B fires. Made in both wide tread and narrow tread models, for outdoor and indoor use*

For larger risks in and around bulk storage stations, pipe lines, rigs, tanks, etc., the new *Foamite* Metered Type 40-gallon Engine has proved highly efficient. This Engine generates about 300 gallons of Firefoam, forcing it in a strong stream over a distance of 60 feet from the nozzle. It is the *only* 40-gallon foam engine approved by the Underwriters for both ordinary and extra-hazardous fires.

For large storage tanks the recognized sure protection is a complete standard *Foamite* System, designed, installed, and maintained by Foamite-Childs fire protection engineers.

Send for our new free illustrated booklet "Correct Protection Against Fire," and the name of our nearest representative. The booklet tells why certain types of fire appliances are more valuable to the oil industry than others.

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MEN KNOWN IN OILDOM

Hoyle Jones

Hoyle Jones, president of the Superior Tube Company, has spent his entire commercial life in connection with the metals trade.

Mr. Jones was born in Kansas City, Mo., on September 14, 1886, and immediately after his education was completed, entered the employ of the United Zinc & Chemical Company at Kansas City. He was later transferred to the Chicago branch as assistant manager, and was subsequently promoted to manager of the St. Louis branch of the company.

In 1908 he became secretary of the Jacques Steel Company of Kansas City, remaining in that capacity until 1910, when he became western representative of the Eastern Steel Company. It was at this time that he started handling pipe and became familiar with the various sections of the Mid-Continent Field.

He organized the Superior Tube Company in 1919, and its headquarters have been in Kansas City until last month, when they were removed to Tulsa, Okla., where Mr. Jones and his family now make their home.

PERSONAL PARAGRAPHS

A. E. Gibson has returned to Petrolia, Ont., after six years in the Burma fields.

* * *

B. T. McNeil, vice president of the Swiftsure Petroleum Co., Houston, Tex., is in New York.

* * *

J. L. Quinn, general sales manager of the Standard Oil Company, was in Los Angeles recently.

* * *

Frank Hall, with The Texas Company at Port Arthur, Tex., is spending the week in Los Angeles, Cal.

* * *

L. E. Westrich is spending a few weeks in San Francisco while the cement sets in his McKittrick wildcat well.

* * *

A. W. Thompson of Tulsa, Okla., is in Casper, Wyo., visiting the local store of the International Supply Company.

* * *

Charles E. Stoll, secretary of the Stoll Refining Company of Louisville, Ky., is the father of a girl, born July 28.

* * *

D. M. Folsom, of the General Petroleum, has returned to headquarters in San Francisco following a recent trip to New York.

* * *

Lewis Penn, chemist of the Pacific Oil Company, was in Los Angeles attending the meetings of the American Chemical Society.

R. L. O'Brien, of the O'Brien Steel Construction Company, Tulsa, and Washington, Pa., was a recent business visitor in Houston.

* * *

George A. Machris, president of the Wilshire Oil Company, left Los Angeles early in the week for a short business trip to Bakersfield, Cal.

* * *

Ralph Lloyd, for whom the Associated Lloyd lease at Ventura is named, has just returned to Los Angeles after a trip to Vancouver, B. C.

* * *

Martin Van Couvering, geologist and petroleum engineer, has removed to his new office at 841 Petroleum Securities Building, Los Angeles, Cal.

* * *

J. S. Cosden, formerly head of Cosden & Company, spent several days in Fort Worth, Tex., last week. He has returned to his home in New York.

* * *

E. A. Brock, chemical engineer of the Standard Oil Company of California, was in Los Angeles attending the American Chemical Society meeting.

* * *

C. C. Thoms, deputy supervisor of the State Mining Bureau at Los Angeles, has been transferred to Santa Paula, Cal., for duty in a similar capacity.

* * *

Roy Cross, chemist, with the Kansas City Testing Laboratory and Gasoline, is returning to Kansas City after spending a week in Los Angeles and environs.

* * *

R. E. Colcock, district manager for the Vacuum Oil Company, with headquarters at Dallas, Tex., has been inspecting conditions in the South Texas section.

* * *

Edward L. Moore, president of the Simms Petroleum Company, has gone to Europe for a vacation. He expects to be away from his office about three months.

* * *

Fred F. Walmsey, superintendent of the Shell Company's yards in Los Angeles, Cal., was married August 1, to Miss Pauline Welcome Graham of Pasadena.

* * *

J. C. Axelson, general manager of the Axelson Machine Company, has returned to Los Angeles after attending the Standardization meeting at Dallas, Tex.

* * *

George Miller, manager of the jobbing department of the Magnolia Petroleum Company at Dallas, Tex., is on his annual vacation, which he is spending in Colorado.

* * *

W. E. Hubbard, of the geological department of the Humble Oil Company, is spending a month on a motor trip to the Pacific Coast. Mrs. Hubbard will accompany him.

* * *

D. C. Royce, sales manager of the Buckeye Traction Ditcher Company of Findlay, Ohio, has returned from a trip through the oil producing countries of South America.

* * *

F. O. McCain, geologist, of Topeka, Kans., has been looking over the East Texas oil fields, and speaks highly of the oil possibilities in Harrison and adjoining counties.

* * *

Roy B. Jones, of the Panhandle Refining Company is on a vacation in the cool climate of Canada. He expects to return to his office in Wichita Falls, Tex., in a week or ten days longer.

* * *

Lee Scott, vice president in charge of production for the White Eagle Oil & Refining Company at Wichita, Kans., has returned to his home after an extended vacation spent in Minnesota.

* * *

R. R. Irwin, vice president of the White Eagle Oil & Refining Company, in charge of refining, has returned to his home in Kansas City after a month's vacation spent at various points in California.

* * *

Thomas Kenny, former superintendent of the Illinois Pipe Line Company for the Rocky Mountain region and recently resigned from that position, is now superintendent of pipe lines for the Contiuental Oil Company, with headquarters at Denver.

A. E. Smothers of the Standard Oil pipe line department in Los Angeles, Cal., cranked up the family "flivver" early last week and departed for parts unknown.

* * *

J. H. Thornton, editor of the Trico News, published by the Petroleum Exploration Company, Wiser Oil Company, and Amity Gasoline Company, of Sistersville, W. Va., has been spending some time in the gas fields of Eastern Kentucky.

* * *

H. W. Fowle, superintendent of the Texas Pipe Line Company, Gulf Coast division, has returned to Houston, Tex., from his vacation. He is a veteran pipe line man, coming south many years ago from the Buckeye lines at Lima, Ohio.

* * *

J. Roby Penn, president of the Texas Pacific Coal & Oil Company, has returned from a business trip to Montana. He spent several weeks in the Montana oil fields inspecting the properties there of the Texas Pacific Coal & Oil Company.

* * *

George Young of the General Petroleum's geological staff is spending two weeks in training camp with the National Guard at Monterey, Cal. George isn't doing any kitchen police, however, as he rated two bars during the World War.

* * *

Earl Derby of the Pacific Oil Company made a hasty trip from headquarters in San Francisco to Bakersfield, Cal., to assume the role of fire fighter. Lightning ignited one of the Pacific's big reservoirs and Mr. Derby assumed personal command.

* * *

William H. Dunning, who is drilling a wildcat well on the J. D. Sugg ranch in Reagan County, Texas, spent several days the past week in Houston on business. He has returned to Reagan County, where he expects the early completion of his test.

* * *

Thomas Carter, vice president of the Atlantic Refining Company's interests in Mexico, has arrived at Tampico to assume charge of the Cortez Oil Corporation and other subsidiaries of the interests in question, vice W. P. Taylor, transferred to Venezuela.

* * *

Carl Gompf, cashier of the Illinois Pipe Line Company, with headquarters at Casper, Wyo., has returned from a supervising trip over the Rocky Mountain States, during which he inspected and checked up the accounts of the branch offices of the pipe line company.

* * *

Paul N. Boggs, assistant to the executive vice president of the Union Oil Company, is making a survey of market conditions in the northwest and will probably spend another week or ten days in Portland, Seattle and Vancouver before returning to headquarters at Los Angeles, Cal.

* * *

T. J. Donoghue, first vice president of The Texas Company, has gone to New York to remain for the balance of the summer. He was accompanied by Mrs. Donoghue and the family. They planned to attend Old Home Week in Bradford, Pa., where Mr. Donoghue lived for many years before coming south.

* * *

A. H. Black, president of Black, Sivalls & Bryson, Inc., and Mrs. Black are expected to arrive in Denver, Colo., soon, where they will be met by W. H. Price, district manager for the company in the Rocky Mountain region, when they make a tour of inspection of the oil fields of Wyoming and Montana.

* * *

F. H. Leidecker of Marietta, Ohio, president of the Leidecker Tool Company, was in Casper, Wyo., last week and later left with the local manager of the Leidecker Tool Company, Glen W. Leidecker, on a tour of inspection of the oil fields in southern Wyoming, Colorado and New Mexico. They expect to return to Casper in about 10 days.

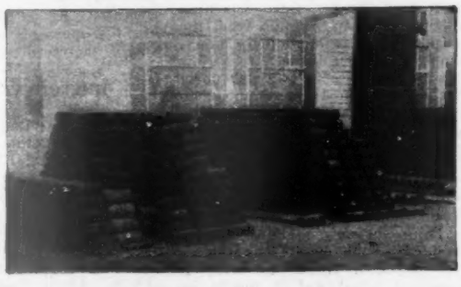
* * *

Bernard Hanratty has been transferred from South Liberty, Tex., to Orange as a gauger for the Gulf Pipe Line Company. He is the third generation of the family engaged in the oil industry. His father, Eugene, is foreman for the Gulf Pipe Line Company in the Goose Creek Pool, and his grandfather, residing at Parker, Pa., is a retired pipe line man.

The way we Produce a Better Tool Joint 1st

Select the Proper Steel

Making Hughes Forgings at Bethlehem Steel Co.



Stock of Rough Forgings

While good steel does not necessarily mean a good tool joint—a good tool joint must be made from good steel.

HUGHES TOOL JOINTS

are made from special, high quality steel, manufactured by the Bethlehem Steel Co. The ore contains in the natural state the alloys which give remarkable strength and wearing qualities. The exceptional high quality of this steel is standardized because the Bethlehem Steel Company controls the entire process of its manufacture—mining of the ore, shipment to the United States, and its treatment through the blast furnaces and steel mills, where it is turned out a semi-finished forging.

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HOUSTON, TEXAS

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NEW YORK CITY

NATURAL GAS DEVELOPMENTS

SAVING NATURAL GAS BY USING FUEL OIL

SAN ANTONIO, Tex., Aug. 15.—To keep industrial consumers supplied with natural gas, the San Antonio Public Service Co. has taken gas away from the boilers of its electric plant, and is substituting fuel oil.

During June, 1925, the company used 77,293,000 feet for its own use, compared to 15,549,000 feet for June, 1924, Ed H. Kifer, vice president and general manager said. Industrial consumption for June this year totaled 38,190,000 feet. In June, 1924, there were no industrial consumers. There are now about 12 industrial plants using gas for fuel.

The average rate paid by industrial consumers for June was 19.9 cents per 1,000 feet net. A comparison of the domestic consumption shows a falling off of nearly a million feet for June, compared with the previous year, probably because more people out of town on vacations this year.

Domestic consumption for June, 1924, totaled 57,326,400 feet at an average net rate of 90.4 cents, compared to 56,582,800 feet at an average net rate of 89.9 cents for June, 1925.

THREE KANSAS TOWNS GET NEW GAS SERVICE

BARTLESVILLE, Okla., Aug. 15.—Completion of their second gas pipe line to Wichita, Kans., is announced by the Empire Companies. The line is a part of the construction program for increased service facilities to Wichita, Newton and Hutchinson, following purchase of the distribution plants in these cities by Henry L. Doherty & Co.

The line extends south 51 miles to the new Dilworth compressing station in Kay County, Oklahoma, where the Empire has contracted the production from an extensive acreage. The line consists of 30 miles of 10-inch welded pipe, the remainder being 12-inch and 16-inch coupled. Preliminary estimates placed the cost at $843,000.

An extension of this line from Wichita to Valley Center, has just been announced for early completion. This extension will provide a service paralleling that of the 10-inch line now supplying Newton and Hutchinson. Completion of the extension will be equivalent to doubling the pipe line facilities to both cities. The three cities may be served entirely through the new pipe line.

MONROE FIELD TO LAST LONGER THAN EXPECTED

NEW ORLEANS, La., Aug. 15.—Recent tests in the Monroe, La., gas fields, under the supervision of the mineral divisions of the Department of Conservation, show that the life of the Monroe Field will be longer than former tests indicated. The field, the report of H. W. Bell, engineer in charge, says, is in excellent condition.

The average pressure of the field under late tests was 875 pounds. Compared with the average original pressure of 1,050 pounds the decrease is 16 2-3 per cent.

Further conservation of the field has been begun by Conservation Commissioner Everett when he sent notices to the carbon black interests advising them of the termination of the six-month agreement and asking them to hold an early meeting to reduce the daily consumption for carbon manufacture from 229,000,000 feet to 175,000,000 feet.

"I expect the carbon manufacturers to agree to these reductions," sand Commissioner Everett.

WESTERN END OF HOUSTON LINE BEING TESTED WITH GAS PRESSURE

By P. L. McGreal

HOUSTON, Tex., Aug. 15.—Testing with gas pressure of the outer or western end of the Houston Pipe Line Co.'s main line from Live Oak County to Houston is in progress. Gas from the half dozen completed wells in Live Oak County was turned into the line at 50 pounds pressure and gradually increased to several hundred pounds. The completed wells average over 25,000,000 feet of gas daily on open flow and have a closed pressure of 1,000 pounds to the square inch. The full pressure will not be turned into the line but will be controlled by regulators.

The main 16- and 18-inch line is being tested in 10-mile sections. Around 50 miles of the west section is ready for testing. Less than 4 miles of line in the Goliad district remains to be placed under ground.

All river crossing are about completed, and the 56-mile 12¾-inch branch line Gulf sulphur mine in Matagorda County is completed including the river crossing on the Colorado south of Bay City. It now seems assured that the entire western section of the line will be completed on or even ahead of contract time, September 1. This breaks all previous records for placing pipe under ground and completing over 150 miles of pipe line, totaling 25,000 tons of unusually heavy steel pipe, some of the heavier sections weighing nearly a ton for a single 20-foot length of 18-inch pipe.

Goliad Line Begun

Pipe for the 18-mile branch line from the main line near Goliad to the gas field in northern Refugio County has begun to arrive. This short extension will be completed before the end of August. This means that by the end of August gas from two South Texas gas fields (Live Oak and Refugio Counties) will be flowing through 150 miles of completed line, supplying the Gulf sulphur industry and all intermediate points.

Work has begun on the laying of the east 100 miles of heavy 18-inch main line from Edna to Houston. Camp has been installed on the east bank of the Colorado, south of Wharton and material hauled out for pulling the several lines of pipe across that river. Material is also arriving at Richmond for the river crossing of the Brazos, a short distance south of town. Around 25,000 tons of steel pipe will be required for the Houston end of the line.

By the end of the summer (early September) most of the clean-up jobs on the west section will be finished and the two branch lines completed and the several pipe line gangs moved to various camp sites between Edna and Houston.

Big Gas Contract

While nothing official has been given out, it is currently reported that the contract with the Texas-Gulf Sulphur Co. calls for the consumption of $500,000 worth of natural gas per year, the agreement covering a period of five years with an optional extension clause. This means that from 2,500 to 3,000 bbls. per day of fuel oil will be replaced with natural gas, which is a distinct loss to fuel oil manufacturers. Much of this fuel oil was topped Coastal and Mexican crudes.

It is expected to have the entire line of approximately 200 miles, extending from Lucas, Live Oak County, to the Houston Ship Channel, with connections in the Refugio County gas district, ready for service by the end of the year. It is planned to furnish gas to industries now using fuel oil. No effort will be made to supply domestic consumers in Houston or in towns along the line until the business has been further developed.

The big gas wells in Webb, Jim Hogg, Live Oak, San Patricio, Neuces and Klerberg Counties during the past few years has given an impetus to the natural gas business in South Texas. Capital has been investigating the possibilities and investing with a view to its distribution. For many years natural gas had little or no commercial value and the wells were permitted to flow wild until the gas sands were exhausted. The heavy gravity crude oil produced in the Coastal region was sold by producers under the contract system at prices ranging from 40 to 85 cents per barrel. Producers agreed to sell their production for one year or more at a stipulated figure. This made for cheap fuel oil. Investors figured natural gas could not compete with fuel oil when the costs of drilling gas wells, laying lines and securing franchies were considered.

The contract system of selling by the producers was discarded when the United States entered the World War and the petroleum industry was placed under the direction of a Federal commission. The credit balance method in use in all other oil producing sections of the country was adopted instead. Coastal crude went to $3 per barrel. Since the termination of the war the price has ranged down as low a $1 and fuel oil quotations have been in harmony. Mexican crude has also ranged higher, due to a variety of causes.

Great Gas Activity

During the past two years immense gas wells have been developed in Webb, Live Oak and other counties. They had no apparent commercial value and naturally capital sought to find a use for the wasting gas. The result is that lines are being laid to Houston and intervening towns. The Southern Natural Gas Co., organized by the late M. M. Sweetman some five years ago, has been supplying gas to San Antonio from the shallow gas district in McMullen County. The supply has been inadequate. Now a line is being projected to reach down into Webb and Jim Hogg Counties to connect with wells in the Carolina-Texas, Bruni and other gas districts. It will connect with the Southern Natural Gas Co. lines into San Antonio.

About 10 years ago one of the largest gas wells in the history of the country was developed at what is known as the White Point district in San Patricio County, across the bay from Corpus Christi. Repeated efforts to bring it under control failed and it finally ignited and burned for a long period. Other wells were drilled and small companies organized which secured franchises to furnish nearby towns, such as Taft, Sinton and Robestown. A line was laid across the bay into Corpus Christi. The organizers of these companies suffered the usual vicissitudes incident to pioneering a new industry, but they paved the way and showed timid investors the possibilities. Kingsville, a railroad and cattle town on the famous King ranch in Klerberg County, was the next town to be piped from wells some 8 miles southwest of that city.

Back some 18 years ago, gas was developed in a wildcat well drilled by the Producers Oil Co., since merged into The Texas Co., in what is known as the Reisor section of Webb County, east of Laredo. The Border Gas Co. was organized as a subsidiary of The Texas Co., and Dr. M. P. Cullinan placed in charge. He developed the field and distributed the gas to irrigation plants in the onion belt, north of Laredo along the Rio Grande River, and to smelters on the border. Frequent political revo-

(Continued on Page 62)

INDICATOR DETECTS COMBUSTIBLE GASES

A critical study of the Burrell indicator for combustible gases in air has been made by the United States Bureau of Mines at its Pittsburgh, Pa., experiment station. This instrument was devised to meet the demand in the mining industry for a simple, inexpensive, portable, strong and safe apparatus which will quickly determine small quantities of methane in mine air with a moderate degree of accuracy, and has been officially approved by the Bureau of Mines.

In an effort to meet the demand of the mining industry for a simple and practicable instrument for the determination of small quantities of methane, the Burrell methane indicator in its first form was developed at the Pittsburgh experiment station of the Bureau of Mines by G. A. Burrell, in collaboration with G. A. Hulett and O. P. Hood. Improvements in the original model were made.

The indicator is really a special type of gas-analysis apparatus for determining the percentage of methane in air by slow combustion; it uses a platinum wire "glower" at bright yellow heat to burn out the gas. The apparatus is essentially a U-tube about three-fourths filled with water. To make a test the water in a large reservoir is forced up into a valve cup by blowing into a rubber tube, and when allowed to return to the normal position it draws in a sample of mine air through the valve. The level of the water, therefore, defines the volume of the air sample taken. The valve is closed and the methane is burned out of this sample by the hot glower. The contraction that results is shown by the new position of the water level in the gage glass next to the scale marked to read directly in percentage of methane.

As low as one-fourth of 1 per cent of methane is indicated by this apparatus with an accuracy of plus or minus 0.15 per cent in the hands of the average operator. As skill in the manipulation of the instrument is acquired this accuracy can be increased to a considerable extent.

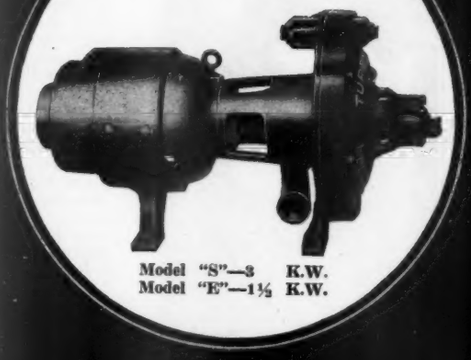
BRITON VISITS URANIA

MONROE, La., Aug. 15.—In the Urania sector, the visit of Thomas Radcliff of Halifax, England, was an event of importance. Mr. Radcliff is one of the largest realty owners and contractors of his home city. Several years ago he was introduced along with Fred Holroyd, the so-called "cotton king" of the British Isles, to invest in La Salle Paris. He is today one of the largest stockholders in the Urania Petroleum Co. His visit is his first to Louisiana and with a view to first hand inspection of his holdings in this part of the country. Rumor has it that his visit will be the means of bringing more British capital, in all likelihood, to La Salle Parish if the tour of inspection so justifies.

NEW NATURAL GAS LINE

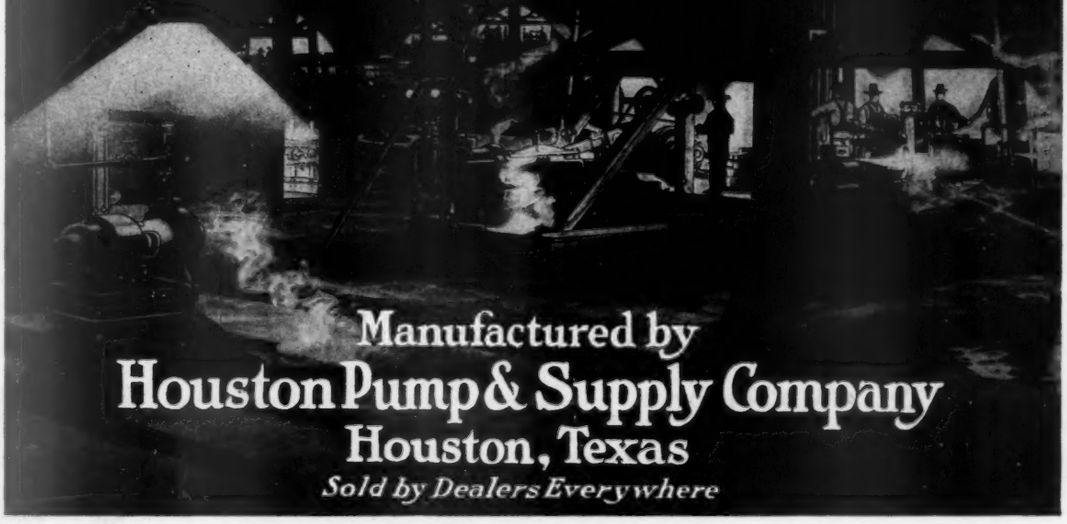
HOUSTON, Tex., Aug. 11. — The Sheehan Construction Co., of Tulsa, has been awarded the contract by the natural gas department of The Texas Co., to lay 20 miles of 8-inch gas line from Baird, Callahan County, westward to Abilene. Work will start August 20. The Texas Co. has been furnishing gas to Abilene for 10 years, through a 6-inch line. The new line will be welded, being the first the company has used in connection with gas distribution.

"TURBOLITE"
Turbo-Generators



Model "S"—3 K.W.
Model "E"—1½ K.W.

Economical
Dependable



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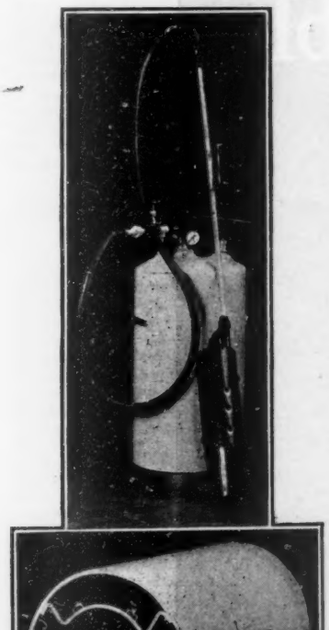
406 W. First St., Tulsa, Okla.
Agents for Mid-Continent Territory

EQUIPMENT AND SUPPLIES

OIL BURNING BENDERS BEING USED IN ANDES

Bending of large diameter oil pipes in the new pipe line being laid across the Andes Mountains presented an unusual problem to the constructors. It was impractical to bend the pipe at the main supply base, and the contour of the country made it extremely difficult to have pipe bending shops in the field. The engineers laying this 270-mile line of 10-inch pipe commissioned the Chausse Oil Burner Co., of Elkhart, Ind., to construct oil burning benders which could be used in the mountainous territory.

The resulting apparatus is shown in the accompanying photograph. This has proved successful in making long radius bends, and has resulted in the shipment of 18 benders to field camps along the



right-of-way. These torches are used for other purposes, such as burning weeds, melting tar, lead, babbit, pre-heating, or any other service for which a large volume of heat is required.

The pipe benders consist of standard Chausse 12-gallon hose connected torches and a bending hood which is 36 inches long, 22 inches wide and 23 inches high. In this instance the 10-inch pipe is hung from the steel construction within the hood, and either one or two burners directed into the hood until the pipe is at the proper temperature for making an easy bend. Both the hood and torch can be carried, and are therefore valuable in field operation. The torch of this size consumes three gallons of kerosene per hour to obtain a maximum heat of about 1,800 degrees. In service it is not always necessary to burn this at maximum consumption because the volume of heat generated is very great. The burners are gas generators and no air pressure is necessary, other than that required to keep a pressure of 25 to 30 pounds on the kerosene in the tank, for which the hand pump is a part of the tank assembly.

THREAD PIN SUCKER RODS

In pointing out the advantages of the Whitworth thread pin, Mr. J. O. Clutter, sales manager of the D. & B. Pump & Supply Co., manufacturers of Whitworth pin rods, state that the pin itself is 1 1-16 inches in diameter, and that the Whitworth thread is slighly rounded, having a fillet at its base. The thread is deep cut, and the design is such that the largest volume of metal remains on both the pin and in the coupling to coordinate in retaining the full strength of the rods. The results of these features are said to be that they enable the tightest possible connection between joints, with no play or leeway to start wear which results in looseness and stripping.

NEW FIELD EQUIPMENT SHOWN IN CATALOG

The Oklahoma Iron Works of Tulsa, Okla., has issued a booklet on some new products of their factories.

Among the new items of oil field equipment listed in the catalog is a heavy duty temper screw made entirely from forged steel, and an extra heavy 9-inch I-beam derrick crane designed to handle safely the new heavy drilling tools which the deeper oil drilling has introduced.

The R. B. D. stuffing box is also mentioned in the booklet as having a retaining chamber which holds a quart of oil that lubricates the polish rod and prevents the packing from blowing out. A by-pass is arranged so that it supplies the retaining chamber with oil while the well is being pumped.

The Summers Self-Aligning Casing Spider is designed to eliminate all side strain on the casing while jacks are being used. Should one jack be raised higher than the other, the self-aligning feature of the spider will prevent side strains and kinks in the casing.

Bell's Automatic Flange for use on the bull wheel shaft, and intended to eliminate kinks and short bends in wire lines; the Bullum trip attachment for slip sockets and the Sheehan combination trip and jat down socket are other items of equipment displayed in the booklet.

STEEL CONTRACT LET FOR WATSON REFINERY

Contracts have been signed by the Associated Oil Co. with the Union Iron Works for the erection of a steel tail house and supports for heat exchanges for the new $300,000 refinery of the company, which is nearing completion at Watson, Cal., it is announced by E. F. Smith, an official of the company. The work is being rushed by the iron company and the structure will be ready for occupancy within 30 days, it is said.

The building of the refinery is part of a new expansion program of the company, the old refinery in Los Angeles having been outgrown by increased business.

CATALOG DEVOTED TO METAL PACKINGS

The Garlock Packing Co., of Palmyra, N. Y., has issued a catalog devoted to metal packings and outlining the features of Garlock Packing Service. Their efficiency is described as the result of an extensive manufacturing experience coupled with careful surveys made by the Garlock engineers to determine designs of this line of equipment to work against high temperatures and pressures of modern power units.

The catalog illustrates the Garlock laboratories where the research department gives special study to the mechanical details of the packings.

CUTTER OF THIS DRILL IS AN ABRASIVE CORE

A patent has been granted to Gustav Griesche, of Berkeley, Cal., for the rotary drilling bit illustrated. The body of the bit is to be made preferable of soft cast steel. The bit has a series of

holes cored at right angles to and communicating with the central cavity that extends up and down through the body of the bit. These holes are to be filled with the abrasive core which is the cutter of the drill. The core is made of a mixture of Portland Cement, crushed steel and granite chips.

INNER TUBE PATENTS PURCHASED BY GOODRICH

Tire manufacturers have, for years, refused to believe in any but the standard inner tube. It is therefore significant that the F. B. Goodrich Rubber Co. has purchased the patents, manufacturing and sales rights of Rubber Ace Puncture Proof Pneumatic Inner Tube, and will manufacture and market this as a Goodrich product in the future. As soon as sufficient production can be secured in the Goodrich plants at Akron, Rubber Ace will be distributed through all Goodrich branches.

Rubber Ace is not a new product, having been made, sold, and used for more than five years. It has been subjected to severe practical tests by fleet owners. It is a patented sponge rubber inner tube, made of pure rubber and air. Instead of being in one container, the air is blown into the tire in millions of little cells. The inner tire is made in two sections—the main unit, conforming to the shape of the tire—and a wedge. The wedge provides the proper fit in the casing under proper compression. The Rubber Ace then acts much the same as the usual inner tube under correct air pressure. The features that have made Rubber Ace operate successfully have been the variable sized wedges and the manner of installation.

The life of a Rubber Ace is not limited to one outer casing. It is used with a casing until the tread is completely worn away—then changed to a new casing. This, it is said, can be continued indefinitely. The first Rubber Ace, made over five years ago, is reported to be still in service.

Investigation by the F. B. Goodrich Rubber Co. among commercial car owners using Rubber Ace in Chicago, New England, New York and California, it is reported, showed that these users were not only getting absolutely uninterrupted tire service as a result of this invention, but that they were also appreciably increasing the mileage secured from their casings, while tests also showed that there is absolutely no movement of the Ace in the casing.

BARREL SPECIFICATIONS

The Detroit Range Boiler & Steel Barrel Co. has issued a folder giving the latest prices and specifications on their products and also a market letter and a chart showing the shipments of barrels and drums to the first of July, 1925, in comparison with the same statistics for the year 1924.

THREADING SPECIFICATIONS

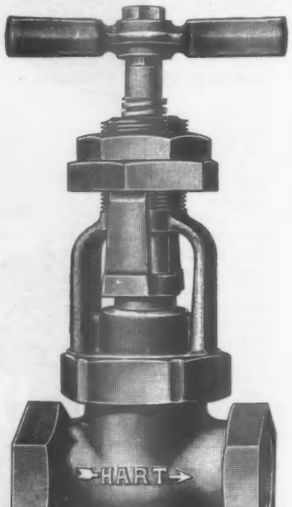
The Landis Machine Co., of Waynesboro, Pa., has issued Catalog No. 25 illustrated with cuts of pipe and nipple threading machines and pipe cutting machines. The catalog contains among other interesting information, a table of specifications for cutting threads on oil well casing and drill pipe.

IN CHARGE OF CANADIAN SALES

The Gibb Welding Machine Co. (successors to Gibb Instrument Co.) of Bay City, Mich., manufacturers of electric welding equipment, announce the appointment of Arthur Jackson, 32 Glenholme Avenue, Toronto, Ont., as sales representative for Ontario and Eastern Canada.

VALVE FIRM EXTENDING

The Hart Co., Inc., of Williamsport, Pa., makers of valves, has issued a folder describing its products. This make of valve has been on the market for several years and the line is being ex-



tended. Most of the valves in the Hart line are for operating service.

The Hart Steelite valves are designed for high pressures and high temperature steam and oil. The metal employed in the making of these valves is a product of the Hart factory and is described as an acid resisting metal, serviceable especially for high temperatures.

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Capital invested in a Hope-conducted construction operation reaches the stage of active earning in the shortest possible time.

The explanation is simple. There are none of the usual "preliminaries" where the Hope organization has the job in hand—none of the delays and mistakes inevitable where specialized experience is lacking.

Hope Service works like a finely adjusted, well oiled, high speed machine—producing results in the least time at the least cost.

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Engineering counsel, design, construction and contracting—in pipe lines for oil and gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

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ENGINEERS CONTRACTORS
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MT. VERNON, OHIO, U. S. A.

TEST WESTERN END OF HOUSTON LINE

(Continued from Page 58)

lutions in Mexico interfered with the operations of the smelters and other border industries. The Reisor Field was finally abandoned and the Border Gas Co. is now securing gas from the Jennings gas field and from wells with which it connected in the Caroline-Texas section in Webb County. A line was laid across the river down into Neuva Laredo on the Mexican side.

Dr. Cullinan is a pioneer gas man in the Southwest, operating in the old Caddo gas district in North Louisiana and in other sections before going to Laredo. In his younger days he was a prominent surgeon and physician, with a professional reputation that extended throughout western Pennsylvania, West Virginia and Ohio. Even now he is frequently called in consultation by members of the medical profession practicing in Laredo and along that part of the Texas border. But he is best known in the Southwest as a natural gas expert. He has successfully brought under control most of the wild gassers in Webb and Jim Hogg Counties.

Used in Refinery

One year ago, the Magnolia Gas Co., a subsidiary of the Magnolia Petroleum Co., completed and put into service a gas line extending from the Northeast Texas gas fields south to the Magnolia Co.'s big refinery at Beaumont. An average of 35,000,000 feet per day is being delivered. Previously the company burned oil under its stills, but the gas is much cheaper. Another line is contemplated from the North Louisiana fields, which will furnish domestic consumers in towns along the right-of-way or close to it. Solicitors have been sounding out citizens in Lufkin, Nacogdoches and other places, and found the sentiment favorable. Wood is used as fuel in most of these towns, East Texas being known as the "piney woods" region, in which immense sawmills are located.

Dallas, Fort Worth, Waco and North Texas has been using natural gas for years, furnished by the Lone Star Gas Co., from fields in Oklahoma and North Texas. The company is planning extensions to its system, which call for 135 miles of 18-inch pipe.

Brownwood, Coleman and other towns in that section have been using gas for eight or ten years from wells in Brown County.

Laredo men have made a survey for a projected line extending from Webb County down the Rio Grande River through Starr, Hidalgo and Cameron Counties to Brownsville and the Mission Valley.

Galveston is also in line for natural gas, the Houston-Gulf Gas Co. having recently been organized to pipe it from Refugio County.

The developed gas regions in South Texas are: White Point, San Patricio County; Calallen, Neuces County, Cartwright ranch, Live Oak County; Cruthers and Three Rivers, McMullen County; Caroline-Texas, Bruni, Jennings and Reisor, Webb County; Henne, Winch and Fariss district, Jim Hogg County; Woodsboro, Refugio County; Kingsville, Klerberg County; west of Edna, Jackson County. Small districts in Bexar County.

The Lone Star Co. is the leading gas company in Texas, distributing in Dallas and Fort Worth through local companies. The Commercial Gas Co. distributes in Northeast Texas from the Elysian Field, supplying Marshall and other towns. A line is being laid to Longview and Tyler.

The Gulf Coast gas has no commercial value.

TEXAS LED IN ROADS

Of the 14,032 miles of designated Federal aid highway in the United States completed during the fiscal year ended June 30, 1925, Texas led all other States with 748 miles, South Dakota was second with 458 miles and Illinois third with 431 miles. The record Texas made promises to be far exceeded this year. Frank Lanham, chairman of the State Highway Commission, states there are under construction 1,280 miles of first class designated highway, all of which should be completed during the current fiscal year. Cost of constructing this 1,280 miles will approximate $20,000,000, including Federal, State and county funds. In addition there will be expended during the year about $6,000,000, for maintenance of roads already finished. Texas has 12,948 miles of first class highway.

GEOLOGIST'S THEORY ON TEXAS TREMORS

WICHITA FALLS, Tex., Aug. 15.—I. R. Sheldon, geologist for the Texhoma Oil & Refining Co. here offers the following explanation for the earthquake tremors recently felt in the West Texas region and extending over into Oklahoma:

"The shocks seem to have centered over an area contained in the Texas Panhandle and its bordering territories in North Texas, Eastern New Mexico, Southern Kansas and Western Oklahoma. This is an area underlaid by a large range of buried granite mountains, the eastern end of which shows above the surface between Mangum and Altus, Okla.

"Drilling for oil in the Texas Panhandle north of Amarillo has shown a long line of faulting in the sedimentary formations topping these mountains, this fault line extending possibly some 200 miles in length, from central Hartley County to a point near Claude, in Armstrong County.

"The usual explanation of an earthquake is further slipping along such a fault line, and it is possible and probable that such is the explanation of the recent quake. That the region around Amarillo, which is very near the line of faulting, seems to have had the worst of the shock, indicates that this explanation is the correct one."

Mr. Sheldon pointed out, however, that the quake might have been caused merely by a slipping of the sedimentary formation above the granite mountain range. He also declared that all explanations must of necessity be pure conjecture; that the quake might have caused an entirely new line of faulting in the affected region; and that "every quake is related closely to its predecessor in some other part of the world."

North Texas, he stated, is not usually regarded as an earthquake zone, but the presence of fault lines would indicate that there have been quakes in this region during the remote past.

"It is much rarer for a quake to occur inland and in a plains country than in a coastal country, or an exceedingly mountainous area," he said.

STEAM FOR AIRPLANES COAL MEN PROMISED

The use of steam engines in airplanes was predicted by Dr. John S. Haldane at the annual meeting of the Institute of Mining Engineers at Cardiff, Wales.

In the course of a paper on coal and steam, Dr. Haldane said in the very near future he believed steam engines would take the place of internal combustion engines to a very great extent, and that future development of the steam engine would be along the lines of increased steam pressure with smaller and lighter engines. The complete engine and boiler would be much smaller and lighter than an equivalent internal combustion engine and would in all probability be more suitable and even superior for use in airplanes and motor cars.

Another scientist, Sir John Cadman, said he looked upon oil as a phase which was surpassing. What oil was doing today, coal would do tomorrow, although oil would go into certain channels of use which coal would never again be able to regain.

TO DEVELOP ALBANIAN LAND

The Government has appropriated 30,000,000 lire, about $1,200,000 at present quotations, for study and exploitation work in the oil lands of Albania.

CENTRAL WEST

(Continued from Page 54)

time found in such counties as Wood, Hancock, Allen, Auglaize, Sandusky, Mercer and Lucas, as well as Ottawa Counties, drew attention from the wildcats that showed for only small producers.

It tooks years to develop the western section of Paulding County into an oil field. Its day has come and it is one of the most promising areas in the entire Trenton Rock Field at this time, and is rapidly spreading over a large area of supposed worthless oil producing territory.

About 33 years ago the writer scouted a test well drilled just north of the Wabash Railroad, at the eastern edge of New Haven, in Allen County, Indiana. This well had a fair showing when a fishing job occurred and the hole was given up and abandoned. A few years later, Lew Centlivre and associates, of Fort Wayne, drilled a well near Woodburn, to the northeast of Fort Wayne and the same direction from the test made at New Haven, close to the State line, also in Allen County, and the well flowed, according to advices at that time, 115 bbls. into tankage, but was found to be a trapped or sealed pocket of oil, and was abandoned. Now it looks as though this area lying between the Payne Field of Ohio and the Woodburn-Edgerton development in Maumee Township, Allen County, Indiana, is bound to become popular, especially among Fort Wayne citizens, it being the largest city near the new development.

Drilling Campaign

Between the Payne Field proper ond the three new wells in Maumee Township, Allen County, Indiana, considerable acreage is held among some large operating concerns as well as numerous independents and individuals. Among those are the Ohio Oil Co., Weidermann Oil Co., Murphy Oil & Gas Co., Aetna Drilling Co., Ogle & Wigton, Ben Hart, C. E. Ledford, John Lamb and others, which means an active drilling campaign in the immediate future.

On the Ohio side of the State line, G. S. Lacknett has finished cleaning out his No. 1 on the Widow Cline property, in the west edge of the town of Payne, in Section 34, Harrison Township, and after being connected to power showed a flush of 105 bbls. In Benton Township, also near Payne, same county, J. H. Harmon and others, formerly reported as the Richland Oil Co., have drilled in a second well 500 feet from the north line and 300 feet from the west line of the Sam Stabler farm, in the northeast quarter of Section 3, which struck top of Trenton at 1,390 feet and drilled 50 feet in, is showing for an average well for the Payne Field.

The test drilled some time ago by H. L. Ogle and associates, on the Sam Stabler farm, in the southeast quarter of the northwest quarter of Section 32, a little over 2 miles west and a little north of Payne and between the Payne Field proper and the new development across the State line in Maumee Township, Allen County, on the Indiana side, is reported as doing 12 bbls. daily. The William Zink well, drilled 22 years ago, which produced over 5,000 bbls. of crude and much gas, is again on the producing list with 4 bbls. a day, a part of which it flows.

The town of Payne has secured its first industrial plant on account of natural gas, a five-pear contract being signed with C. E. Ledford. Operations will commence within a few days.

The finding of a second pay sand in the Trenton in some of the late wells means there will be plenty of cleaning out and deeper drilling done. This work is reported lagging on account of the present contractors being kept busy starting new wells. Something like 20 wells that were drilled in the early stages of the field that were shot and not cleaned out can be contracted for cleaning at once. The Payne Field, like many others, had to go through the experimental stage and with operators who clean their wells and have brought in experienced pumpers, the production has made big gains recently. To date 45 wells have been drilled in the field, which have proved up several thousand acres of virgin oil lands which is attracting producers from many states, since dry holes are nearly an unknown feature in the field. The finding of a deeper pay also means that those only drilled to the more shallow pay will be deepened, cleaned out and put on the beam.

Daily production in the Payne Field is nearing the amount required to secure a main pipe line which will be brought in from a distance of approximately 25 miles.

Prof. Dana J. Demerost, of the Department of Metallurgy of Ohio State University, will make a test of the gas in the Payne Field for helium gas soon.

New Wells in Lima Field

In Troy Township, Wood County, south of Toledo, Ohio, George W. Hoffman's No. 5, 200 feet from the south line and 1,400 feet from the west line of the W. and H. Hartman farm, Section 12, pumped 15 bbls. at 1,308 feet.

In Eagle Township, Hancock County, between Lima and Findlay, Star & Clark's No. 6, on the southeast corner of the Allice Stauffer farm, Section 5, pumped 15 bbls., while Click and others' No. 10, 1,200 feet from the north line and 25 feet from the west line of the H. Blymyer farm, Section 8, pumped 2 bbls.

In Douchouquet Township, Auglaize County, in the Cridersville Field, C. C. Romshe drilled in No. 5 in the northeast corner of the Fred Kohler farm, Section 17, which pumped 30 bbls. flush.

In Madison Township, Sandusky County, the Van Vleck-Stowe Oil Co.'s No. 8 650 feet from the south line and 350 feet from the east line of the T. E. Jones farm, Section 30, pumped 3 bbls. Trenton was topped at 1,223 feet and oil at 61 feet in, to a total depth of 1,284 feet.

Colt, McClure and others' No. 7, in the southeast corner of the W. M. Miller farm, Section 4, Center Township, Mercer County, is showing light. The other six wells starting at from 15 bbls. up.

In Harris Township, Ottowa County, Sherman, Richards and others' No. 9, located 200 feet from the north line and 700 feet from the west line of the H. W. Nieman farm, Section 18, showed a flush of 10 bbls. at 1,343 feet.

Central Ohio

Fifteen completions are reported from the Central Ohio field, one of which was oil with 5 bbls., 4 dry holes and 10 gas wells. Since the last report somewhere close to 20 new wells have started drilling and a dozen new locations were staked out, with rigs building and material moving in for others. Now is the season when the gas companies show their activity.

In Orange Township, Ashland County, the Logan Gas Co.'s No. 1, on the southwest corner of the H. B. Wertman 127 acres, Section 3, is a nice gas well as is its No. 1, in the southeast corner of the L. H. and F. Smith 43 acres, Section 4. In the same township, the same company made a location for a second test 688 feet from the north line and 300 feet from the east line of the Eliza McBride 106 acres, Section 8; No. 1, 659 feet from the north line and 300 feet from the east line of the S. L. Mackal 49 acres, Section 3, and a second test 2,038 feet from the north line and 324 feet from the west line of the H. B. Wertman, same section. This company is also drilling a test on the Clayton I. Harmon 80 acres, Section 7. In the same township, the Frey Gas Co. has a good gas well at a test 556 feet from the north line and 460 feet from the west line of the G. B. Frey 170 acres, Section 3.

In Greene Township, Ashland County, the Ohio Fuel Gas Co. has a nice gas well at a test on the Henry Casner farm, Section 32. In Hanover Township, same County, the Logan Gas Co. is drilling a test on the Milton Weis, Section 21.

In Westfield Township, Medina County, the Logan Gas Co. drilled a duster in a second test on the southwest corner of the Frank Hoff 93 acres, Lot 3. In York Township, the Ohio Fuel Gas Co. is drilling a test on the northwest corner of the H. and F. Ziegler 86 acres, Lot 1. In Hinckley Township, same county, the same company made a location for a second test on the northeast corner of the W. Warner 6 acres, Lot 19, as

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Fig. 1109

10 x 8¼ x 10" Turret Top Type Transit Pump. 463 barrels per hour against 100 lbs. pressure.

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The fluid end is not a worked-over nor adapted General Service Type fluid end but is specially designed for the work.

Large and direct fluid passages and long stroke is a combination that will handle large volumes at slow speed. Slow speed means few reversals, and few reversals means long life.

Note particularly the removable cover over the discharge valves, and the long hand-hole cover for access to the suction valves. Thus real accessibility is accomplished.

These and other pumps are described in our New Bulletin 101-A. It will be sent promptly on request

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well as a location for a test 300 feet from the south line and 1,300 feet from the west line of the Levina Overholt 100 acres, Lot 25, Brunswick Township, same county.

In Columbia Township, Lorain County, the Ohio Fuel Gas Co. brought in an excellent gas well in a test on the northeast corner of the J. and E. Greewald 25 acres, Lot 32. The Wiser Oil Co. struck a big gasser at a second test on the L. L. Ding farm, Lot 49. The Logan Gas Co. found a duster at a second test on the Lucy Martin, Lot 50. Same company made a location for No. 3, on the southwest corner of the Jeremiah Martin 87 acres, Lot 50, and the Empire Gas & Fuel Co. located a second test on the southeast corner of the Oliver Leitner 60 acres, Lot 32.

In Cannan Township, Wayne County, Arthur & Mills drilled in a good gas well at a test in the southeast corner of the J. Fetzer 80 acres, Section 29. In Milton Township, same county, the Logan Gas Co. made a location for a test 464 feet from the north line and 658 feet from the west line of the Wilson Steele 80 acres, Section 18.

Mansfield (Ohio) parties are drilling a test on the Emil Schausee 60 acres, mapped as the Elvira Cline farm, Section 16, Madison Township, Richland County.

Holmes County

In Monroe Township, Holmes County, the East Ohio Gas Co. made a location for a second test in the northwest corner of the B. C. Bird 104 acres, Lot 4. In Prairie Township, same county, the East Ohio Gas Co. drilled a fine gas well in a second test on the Wayne F. Kendall farm, Section 17. In Hardy Township, same company is drilling No. 1 D. and W. Finley, Lot 35; No. 1 L. A. Sowash, Lot 39; No. 5 Jacob Uhl, Lot 22, and made a location for No. 3 on the northeast corner of the Harriett McCullough 85 acres, Lot 30. In the same township, the Empire Gas & Fuel made a location for a test on the J. M. Eis 97 acres, Lot 18. In Kilbuck Township, same county, the same company is drilling No. 1 Frank Carpenter farm, Lot 14, and the Ohio Oil Co. is drilling No. 1 Rachel Morr 80 acres, Lot 19.

In Carthage Township, Athens County, the Logan Gas Co. has a light gas well in the Maxon sand at a test on the Eva Clark, Lot 3, and drilling deeper No. 3 J. W. Kincaid, Lot 2. This company made a location for a test on the F. Cole 40 acres, Lot 5, and for No. 1 on the O. B. Chapman 83 acres, Lot 26. Shady Run Oil Co.'s No. 11 F. W. Chapman, Lot 25, was dry at 1,167 feet. Athens County Oil & Gas Co.'s No. 2 F. W. Chapman, Lot 31, is a light gas well. Ohio Fuel Supply Co. drilled a dry hole in the Big Injun sand at No. 1 D. J. Runion farm, Lot 36, at 1,216 feet. Snodgrass and others are drilling No. 1 on the F. E. Clark 75 acres, Lot 18.

In Troy Township, Athens County, Dunham Brothers are drilling No. 1 Timothy Russell farm, Lot 36. In Waterloo Township, the Logan Gas Co.'s No. 1 Elizabeth Efaw farm, Lot 2, pumped 5 bbls. from the Berea sand.

Offside Development

In Newcastle Township, Coshocton County, the Logan Gas Co. is drilling a test 125 feet from the south line and 580 feet from the west line of the J. W. Frazier farm, Section 12.

In Jefferson Township, Knox County, the East Ohio Gas Co.'s No. 1 W. I. Greer, Section 4, is a nice gas well. Same company's No. 1 Bert Nyhart farm, Section 4, is also an excellent gas well.

In Barlow Township, Washington County, the Muskingum Gas Co. drilled a light gas well on the Carrie L. Legen farm, Lot 1027. In the same township, Thomas Orndorf's No. 1 D. Hayes farm, Lot 16, is a 1,500,000-foot gas well from the Big Injun sand.

In Ward Township, Hocking County, the Nypano Oil Co.'s No. 12 Cobb-Bradley land, in Section 30, is credited with a flush of 120 bbls. In Coal Township, Perry County, the Kachelmacker Estate's No. 4 Gardner & Mills lease, Section 4, is estimated at 140 bbls.

Ross Brothers drilled a duster in the Injun sand at a test on the Charles Pugh, Lot 728, Barlow Township, Washington County, but expect to plug back to the Maxburg sand at 775 feet, where a showing of oil was found.

Indiana Field

Seven completions were made in the Indiana fields during the week, the three best being located in the new development northeast of Fort Wayne, in Maumee Township, Allen County, Indiana, and about 10 miles northwest of the Payne Field of Paulding County, Ohio. These wells have stirred up quite an activity and have been estimated at 50 bbls. each, from the Trenton Rock formation.

In southwestern Indiana, in the Princeton area, in Barton Township, Gibson County, the Consolidated Oil Co. and Nelson's second test, 200 feet from the south line and 600 feet from the west line of the Eliza M. Harper farm, drilled in a dry hole at 1,338 feet.

In Hamilton Township, Sullivan County, J. R. Smith's test, 660 feet from the south line and 1,000 feet from the east line of the A. J. Ross farm, in the southwest quarter of Section 10, was a dry hole. In Fairbanks Township, same county, Hollingsworth and others' second test 1,120 feet from the north line and 200 feet from the west line of the J. F. Harrison farm, Section 33, was dry at 652 feet. In Gill Township, same county, Fred Bays' second test, 1,120 feet from the north line and 660 feet from the east line of the R. M. Bledsoe farm, produced 125,000 feet of gas at 582 feet.

Illinois Field

The best completion reported from the Illinois Field for the week was that of the Petro Oil & Gas Co.'s No. 5, in the southeast corner of the H. Kalberkamp, Section 30, Centralia Township, Marion County, with 30 bbls. Top of sand at 745 feet and oil at 15 feet in. In Patoka Township, same county, the Ohio Oil Co.'s test, in the southeast corner of the L. E. Green farm, in the southeast quarter of Section 9, was a duster at 1,632 feet.

In Wabash Township, Wabash County, Phipps & Blosser's test in the northwest corner of the M. Richter farm, in the northwest quarter of Section 33, was a dry hole at 1,600 feet.

In Dennison Township, Lawrence County, the Ohio Oil Co. and Silurian Oil Co.'s No. 5 H. A. Seed farm, Section 21, was abandoned.

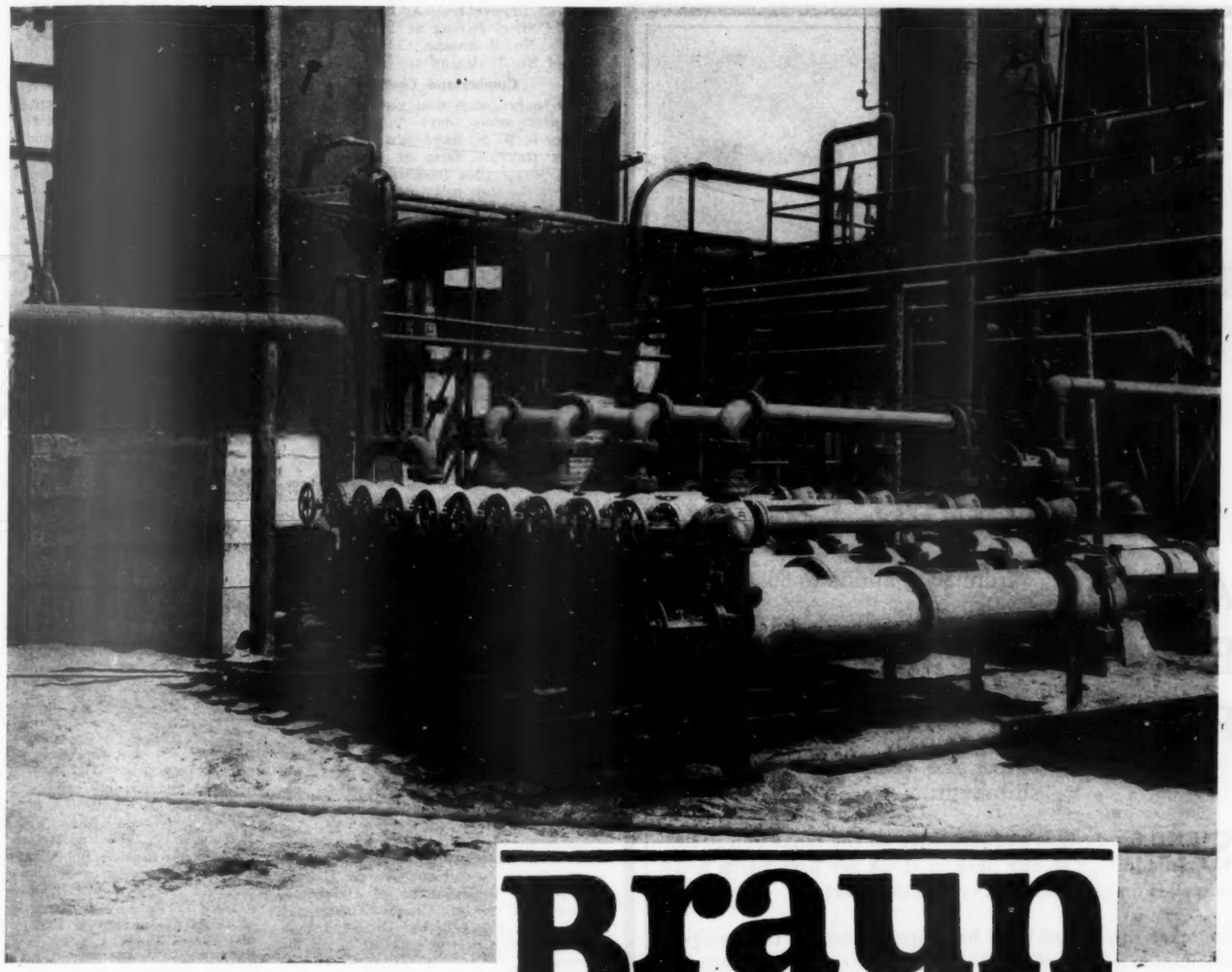
In Prairie Township, Crawford County, M. Phelan and others' No. 12 J. A. Newlin farm, Section 26, reported showing for 20 bbls. In Honey Creek Township, J. D. Toomey's No. 14 Highsmith Brothers farm, Section 20, pumped 3 bbls.

In Parker Township, Clark County, the Ohio Oil Co.'s No. 38 A. J. Bigelow farm, Section 6, pumped 2 bbls. at 504 feet, and W. H. Squires' No. 27 C. T. Marshall farm, Section 29, pumped 2 bbls. at 482 feet.

KENTUCKY-TENNESSEE

(Continued from Page 54)

White Plains Oil & Gas Co.'s No. 1 McBrayer has a crooked hole at 675 feet; Powers & Cornell's No. 1 Bowman was in the Jackson sand at 710 feet: Randolph & Carson's No. 1 Ann Griffith was nearing the Barlow at 765 feet: the Jett and Jackson sands were barren. Wood Oil Co.'s No. 1 Taylor was drilling in the Jackson sand; same concern's No. 1 C. H. Voyles, is dry in the Jett at 452 feet; I. N. Harkless has made a location on the south line of the J. S. Huff tract: Patton and others' No. 1 J. A. Combs was drilling at 640 feet; Central-Southern Oil Co.'s No. 1 J. R. Ellis is drilling to the Barlow sand; the Jett sand at 475 feet is showing for 3 bbls.; C. A. Leeper's No. 1 James Johnson is shut down at 400 feet on account of water shortage; Roy Diamont's No. 1 W. B. Willis is shut down with a fishing job; C. E. Daugherty is spudding No. 6 Crowe, 400 feet east of No. 5; Pennsylvania-Indiana Oil Syndicate's No. 8 Jess Swope, rigging up; No. 4 Abe Howe, cleaning out after shot; Chicago Petroleum Syndicate's No. 2 Ira Crowe, drilling at 425 feet; Spice Knob Development Co.'s No. 4 Bert Thompson was shut down at 230 feet with engine trouble; Panther Creek Oil Co.'s No. 9 J. W. Smith is being rigged up, 400 feet southwest of No. 8; White & Nicklin's No. 4 O. T. Burdette, drilling in the Barlow



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sand at 725 feet; C. A. Leeper's No. 2 J. C. Collier, drilling at 250 feet; same party's No. 2 Susana Collier, 400 feet east of No. 1, rigging up.

Cumberland County

The only completion recorded during the past seven days in Cumberland County is W. S. Raydure's No. 3 on the Salina Raydure farm at Kettle Creek which was drilled from the Sunnybrook sand to the pay below the Pencil Cave, where it is producing 5 bbls.

It is reported that a pipe line is being laid to Pulsey Creek where McClintock and others recently finished a fine producing well which will no doubt result in quite a bit of new work in this section, opened the first of the year. The Paragon Development which maintains the gathering system in Cumberland and Monroe counties is asking for more oil much to the delight of the operators there. For several months a large amount of storage was filled by the operators and in numerous cases they had to quit pumping their wells until their oil had been run.

Warren and Allen Counties

A continued dullness prevails in Warren and Allen counties and the past week showed but three completions, two in Warren and one in Allen. No wells were started in either county and no new locations were staked off, mostly to the fact that this is vacation time.

In the northeast extension area of Warren County, the Wood Oil Co. reports its No. 11 Grimes good for 6 bbls. at 1,200 feet, approximately 100 feet below the black shale. In the Richpond district, south of Bowling Green, the Richpond Oil Co.'s No. 1 Holland is dry after being shot and the casing will be pulled and the hole plugged.

H. A. Kiser is credited with the lone completion in Allen County. It is his sixth well on the Travelstead tract, reported good for 8 bbls. at 270 feet, immediately below the shale.

It is reported I. E. Garrison has sold his eighth interest in the Ben Ford lease in the Richpond sector of Warren County to Walter McClanahan, of Oklahoma, formerly of Bowling Green. This is one of the best leases in the Richpond Pool and has made a large amount of oil for its owners.

Very little development is going forward in any of the other western Kentucky counties. In Adair County, three tests are being made and in Logan, Simpson, Metcalf and Meade Counties only one is registered for each.

Eastern Division

The best well for the week in the eastern division of the Blue Grass State is Dillon & Wetzel's No. 7 on the James Cooper farm in district No. 3, Wayne County. On tapping the Beaver sand at about 650 feet the well filled up 450 feet in the hole and when shot showed for 25 bbls. initial. In district No. 13, F. M. Taylor & Co.'s No. 3 Fairchild was reported dry in the Beaver sand.

South Weir Field

In the South Weir Sand Field of Johnson and Magoffin counties, two completions were made. R. G. Gillespie's No. 4 F. M. Moore, district No. 30, is estimated at 6 bbls. from the Weir and the Indian Tex Petroleum Co.'s No. 11 Jess Rose, in district No. 33, started off at 10 bbls. from the Weir sand.

North Weir Field

The North Weir Field of Lawrence and Johnson counties has seen very little activity the past few months, but according to reports received, several new wells are being started in remote areas.

The Union Gas & Oil Co. finished the only well of the week. It is No. 33 on the P. P. Holbrook farm, district No. 32, estimated at 10 bbls. from the Weir sand.

In Floyd County, the New Domain Oil & Gas Co. go ta gasser estimated at 500,000 feet in its No. 5 John Martin on Left Beaver Creek. The Eastern Carbon Black Co.'s No. 2 Kate Spencer is good for 250,000 feet of gas from the Corniferous sand.

In Owsley County, the Huntington Oil Syndicate got a 2-bbl. stripper in its fifth venture on the Hunting tract in district No. 18-B from the Corniferous.

PAN AMERICAN WESTERN SEGREGATION TERMS

NEW YORK, Aug. 15.—Directors of Pan American Petroleum & Transport Co. have approved the plant drafted by E. L. Doheny and associates for the segregation of the Pan American Petroleum Co. properties in California.

This marks the final phase in the negotiations which resulted in the purchase from E. L. Doheny and family last March of 501,000 shares of the outstanding 1,001,556 shares of voting stock of Pan American Petroleum & Transport. The stock was bought by a syndicate organized by Blair & Co., Inc., as bankers with Standard Oil Co. of Indiana, the Chase Banking Group, and British interests as associates.

Mr. Doheny's letter to the stockholders of the Pan American Petroleum & Transport Corp. announcing the details covering their subscription rights to the capital stock of the Pan American Western, which was organized to take over the Pacific Coast properties of Pan American Petroleum & Transport Co., stated that holders of Class A and B stocks of the Pan American Petroleum & Transport Co. of record August 19 may subscribe on or before September 8 at $23.50 a share for one share of Class B common stock of Pan American Western for each seven shares of Pan American Petroleum & Transport stock.

The letter pointed out that Pan American Western has an authorized capital of 200,000 shares of Class A common stock and 800,000 shares of Class B common stock, both without par value. Both classes have the same rights and privileges regarding dividends and distribution of assets, but the Class B stock has no voting power. All dividends will be declared and payable ratably.

In connection with the acquisition of the stock and assets of the Pan American Petroleum Co., the Pan American Western is about to issue 100,000 shares Class A and 402,000 shares of Class B stock, together with $11,250,000 principal amount of its 15-year 6 per cent notes, to be dated January 1, 1925. The 100,000 shares Class A stock is being subscribed for by the Petroleum Securities Co. at $23.50 a share, and so much of the Class B. stock offered as is not subscribed for by stockholders will be taken over by the Petroleum Securities Co., of which Mr. Doheny is the head, at $23.50 a share, without commission.

The circular to stockholders lists all of the assets of the Pan American Petroleum & Transport Co. to be acquired by Pan American Western Petroleum Co. on the Pacific Coast. It is also stated that application will be made to have the stocks of the new company listed on the New York Stock Exchange.

All of the officers and directors of the Pan American Western Petroleum Co. have not yet been chosen, as the corporation is still in the organization stage. It is generally rumored, however, that Herbert G. Wylie, who has been associated with Mr. Doheny for more than 20 years, will join the new organization on the Pacific Coast. Mr. Wylie recently resigned as president of the Pan American Petroleum & Transport Co.

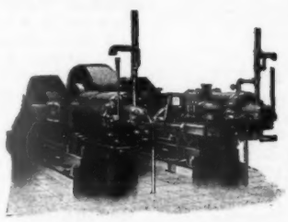
The officers and directors of Pan American Western chosen thus far are Edward L. Doheny, president and chairman of the board, and R. M. Sands, secretary. Mr. Sands for a numbers of years was private secretary to Mr. Doheny and also a director and executive of Pan American Petroleum & Transport. The directors include Edward L. Doheny, Edward L. Doheny, Jr., J. C. Anderson, C. W. Smith and Fred Ritter.

S. S. Price of Tulsa, geologist for the Dixie Oil Co., and Samuel J. Caudill, petroleum engineer of Tulsa, made the valuation of all the producing properties, as well as the 50,000-bbl. refinery, marine station, gasoline plants and other physical assets which formed the basis of the tranfer. Mr. Caudill alo made a valuation of the properties of the Pan American Petroleum & Transport Co. in Mexico for the Standard Oil Co. of Indiana.

Simplate Valve—Only CP Compressors are equipped with this simple valve of straight-lifting concentric discs.

Direct Connected Motor Driven Air Compressors with Three Step Capacity Regulation — various sizes in capacities from 100 to 10,000 cu. ft. air displacement per minute.

In Lansing, Mich.



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THESE Class O-CE Chicago Pneumatic Compressors, with a combined capacity of approximately 1000 horse-power, are operating Indiana Air-Lift pumps in the Riverside Pumping Station—part of the municipal water supply system of Lansing.

This equipment has actually doubled the water supply of existing wells and, at the same time—reduced maintenance costs to the absolute minimum.

Whatever your particular air power problem is—there is a Simplate Valve equipped, automatically regulated and self-lubricated Chicago Pneumatic Compressor in over 500 sizes and types to meet your requirements.

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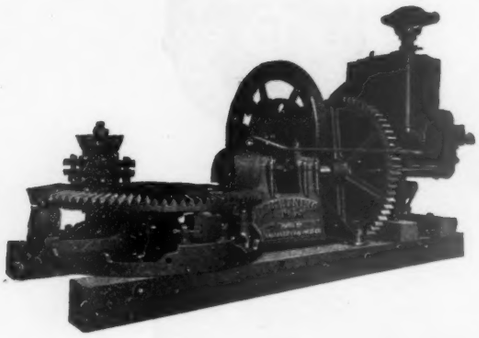

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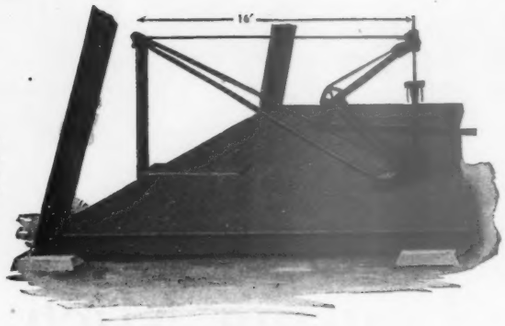
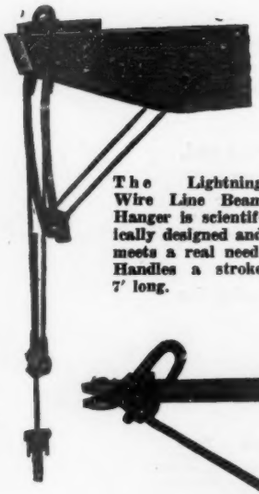
We build all sizes of geared powers, both belt driven and direct connected, for all conditions.



Our long stroke pumping jacks increase production and operate with a slow steady motion.



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Tulsa, Okla., B. V. Emery & Co.
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Bradford, Pa., Combination Eng. & Com. Co.
All Republic Supply Stores
Houston, Texas, Harry B. Shine

Kansas City Hay Press Co.
Kansas City, Mo.

SALE OF EXHIBIT SPACE IN THIS YEAR'S PETROLEUM SHOW

TULSA, Okla., Aug. 15.—Reservations and sale of the exhibit booths and space for the third annual International Petroleum Exposition and Congress, which will open here on October 1, are away ahead of this time last year, according to E. F. McIntyre, general manager, who made public the following list of exhibitors who Mr. McIntyre declares have already contracted and paid for their show space:

Advance-Rumely Thresher Co., Inc., LaPorte, Ind.
American Appraisal Co., Milwaukee, Wis.
American Car & Foundry Co., St. Louis, Mo.
American Cast Iron Pipe Co., Birmingham, Ala.
American Schaeffer & Budenberg Corp., Brooklyn, N. Y.
American Tank Co., Oklahoma City, Okla.
Andrews Steel Co., Newport, Ky.
"Aznefi," Russian Oil Corp., Bakou, Russia.
Baash-Ross Tool Co., Los Angeles, Cal.
Banner Rock Products Co., Alexandria, Ind.
Barber-Greene Co., Aurora, Ill.
Barco Mfg. Co., Chicago, Ill.
Barnickle, Wm. S., & Co. (Tretolite), St. Louis, Mo.
Becker Specialty Co., Tulsa, Okla.
Bethlehem Foundry & Machine Co., Bethlehem, Pa.
Binks Spray Equipment Co., Chicago, Ill.
Blackmer Rotary Pump Co., Petoskey, Mich.
Bovaird Supply Co., Tulsa, Okla.
Braden Co., Tulsa, Okla.
Braun & Co., C. F., Alhambra, Cal.
Bristol Co., The, Waterbury, Conn.
Buda Company, Harvey, Ill.
Carey, Philip, Co., Lockland, Ohio.
Chaplin Fulton Mfg. Co., Pittsburgh, Pa.
Chapman Valve Co., Indian Orchard, Mass.
Chicago Pneumatic Tool Co., New York City.
Climax Engineering Co., Clinton, Iowa.
Correct Measure Co., Rochester, Pa.
Crane Packing Co., Chicago, Ill.
Crouse-Hinds Co., St. Louis, Mo.
Dearborn Chemical Co., Chicago, Ill.
Detroit Graphite Co., Chicago, Ill.
Dodge Bros., Detroit, Mich.
Dresser, S. R., Mfg. Co., Bradford, Pa.
Eagle Picher Lead Co., Chicago, Ill.
Eastern Torpedo Co., Toledo, Ohio.
Edward Valve & Manufacturing Co., East Chicago, Ind.
Eisman Magneto Co., New York.
Filling Station, The, Houston, Tex.
Fire Apparatus Co., Tulsa, Okla.
Foamite-Childs Corp., Utica, N. Y.
Frick-Reid Supply Co., Pittsburgh, Pa.
Fullerton-Stuart Lumber Co., Sapulpa, Okla.
Fisher Governor Co., Marshalltown, Iowa.
Gardner Governor Co., Quincy, Ill.
Garlock Packing Co., Palmyra, N. Y.
Gaso Pump & Burner Co., Tulsa, Okla.
General Motors Truck Co., Pontiac, Mich.
Globe Mfg. Co., Battle Creek, Mich.
Graham Bros. Truck Co., Detroit, Mich.
Greenfield Tap & Die Corp., Greenfield, Mass.
Griscom-Russell Co., New York City.
Gulf Publishing Co., Houston, Tex.
W. & L. E. Gurley, Troy, New York.
Harrisburg Supply Co., Tulsa, Okla.
Harrisburg Pipe & Pipe Bending Co., Harrisburg, Pa.
Hercules Motors Corp., Canton, Ohio.
Highland Body Mfg. Co., Cincinnati, Ohio.
Hill, Hubbell & Co., San Francisco, Cal.
Hills-McCanna Co., Chicago, Ill.
Hinderliter Tool Co., Tulsa, Okla.
Hoffman Mfg. Co., Bristow, Okla.
Hope Engineering & Supply Co., Mt. Vernon, Ohio.
Hoyt Metal Co., St. Louis, Mo.
Industrial Construction Co., Tulsa, Okla.
International Filter Co., Chicago, Ill.
International Nickel Co., New York City.
Jensen Bros. Mfg. Co., Nowata, Okla.
Keystone Lubricating Co., Philadelphia, Pa.
Kinney Mfg. Co., Boston, Mass.
K. W. Ignition Co., Cleveland, Ohio.
Layne & Bowler Co., Houston, Tex.
McSavney Co., The, Springfield, Ohio.
Mack-International Motor Truck Corp., New York City.
Magneto Ignition Co., Tulsa, Okla.
Maloney Tank Co., Tulsa, Okla.
Manzel Bros. Co., Buffalo, N. Y.
Mathieson Alkali Works, Inc., New York City.
Merco Nordstrom Valve Co., Inc., New York City.
Midwest Piping & Supply Co., St. Louis, Mo.
Miller Improved Gas Engine Co., Springfield, Ohio.
Mine Safety Appliances Co., Pittsburgh, Pa.
Mosler Metal Products Corp., Mt. Vernon, N. Y.
Murray Tool & Supply Co., Tulsa, Okla.
Newton Process Mfg. Co., Fullerton, Cal.
National Petroleum News, Cleveland, Ohio.
National Turnbuckle Derrick Co., Tulsa, Okla.
North American Exploration Co., Houston, Tex.
Norval & Dial, Tulsa, Okla.
O'Bannon, Walter, Co., Tulsa, Okla.
Oil Conservation Engineering Co., Cleveland, Ohio.
Oil Trade Journal, Inc., New York City.
Oil Weekly, The, Houston, Tex.
Oklahoma Natural Gas Co., Tulsa, Okla.
Oklahoma Steel Castings Co., Tulsa, Okla.
Oxweld Acetylene Co., New York City.
Oil and Gas Journal, The, Tulsa, Okla.
Parkersburg Rig & Reel Co., Parkersburg West Va.
Pittsburgh Meter Co., Pittsburgh, Pa.
Power Plant Equipment Co., Kansas City, Mo.
Plibrico Jointless Firebrick Co., Chicago, Ill.
Prairie Oil & Gas Co., Independence, Kans.
The Proscott Co., Menominee, Mich.
Producers & Refiners Corp., Denver, Colo.
Progressive Brass Mfg. Co., Kansas City, Mo.
Quaker City Tank Line, Inc., St. Louis, Mo.
Quigley Furnace Specialties Co., New York City.
Ratigan, J. P., Los Angeles, Cal.
Reading Steel Casting Co., Bridgeport, Conn.
Regan Forge & Engineering Co., Los Angeles, Cal.
Refiner, The, Houston, Tex.
Republic Iron & Steel Co., Youngstown, Ohio.
Republic Supply Co., Houston, Tex.
Rossendale-Reddaway Belting & Hose Co., Newark, N. J.
Schutte & Koerting Co., Pittsburgh, Pa.
Sherwin-Williams Co., Tulsa, Okla.
Sivyer Steel Casting Co., Wilwaukee, Wis.
Skelly Oil Co., Tulsa, Okla.
Skinner Bros. Belting Co., Tulsa, Okla.
Slater Bros. Turnbuckle Derrick Co., Sand Springs, Okla.
Smith Separator Co., Tulsa, Okla.
Spang, Chalfont & Co., Pittsburgh, Pa.
Spengler Core Drilling Co., Los Angeles, Cal.
Stanley Belting Co., Chicago, Ill.
Sterling Steel Co., East St. Louis, Mo.
Sullivan Co., Memphis, Tenn.
Sullivan Machinery Co., Chicago, Ill.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Co., Rochester, N. Y.
Templeton, Kenly & Co., Ltd., Chicago, Ill.
The Texas Co., Houston, Tex.
Texhoma Oil & Refining Co., Wichita Falls, Tex.
The Traction Machine Co., North Baltimore, Ohio.
United Lead Co., New York City.
Universal Oil Products Co., Chicago, Ill.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Mfg. Co., Boston, Mass.
Waukesha Motor Co., Waukesha, Wis.
Webster Engineering Co., Tulsa, Okla.
Western Supply Co., Tulsa, Okla.
White Co., The, Cleveland, Ohio.
Williams, J. H., & Co., Buffalo, N. Y.
Williamsport Wire Rope Co., Tulsa, Okla.
Wyoming Shovel Works, Wyoming, Pa.
Yarnall Waring Co., Philadelphia, Pa.

Also many other firms that have made reservations or that have contracts in mail.

NEW YORK OPERATIONS

BOLIVAR, N. Y., Aug. 15.—The following wells were completed the past month in the local field: Christmas Brothers' No. 2, 4 bbls; Ebenezer Oil Co.'s No. 2, 8 bbls.; L. W. Shaner No. 1, 3 bbls.; Alma & Whiteman No. 1, 4 bbls; Messer & Co., No. 1 15 bbls.; Moore Hogan No. 2, 30 bbls; Producers Oil Co., No. 2, 20 bbls.; Matson & Funk No. 2, 5 bbls.; Shamrock Oil Co. No. 1, 10 bbls.; Jordan Bros.' No. 1, 50 bbls.; Hardman & Thompson, E. D. Smith, fair producer. Contractor C. F. Allen is drilling a well on lot 22, Ackerman farm, for the Forest Oil Co. It is reported that Mrs. Julia Willets Williams has sold her oil lease in the Alma district to Boston parties for around $40,000, and that the new owners will start an active drilling campaign on the property. R. J. Dermitt is drilling a well on his fee property at Richburg. The Forest Oil Co. has completed a good well on the Ackerman farm, town of Bolivar. Benjamin & Jordan are getting ready to drill a well for Matson & Funk on the Frair lot at Richburg.

AMERICAN BUSES TO BAGDAD

With a view to developing motor transportation in the Near East a new company is being organized in England to be known as the "Middle East Transport Service, Ltd.," which is backed by American, British and French capital. The main object of the company will be to transport passengers and merchandise from the Mediterranean to Bagdad and Persia. The firm has bought out the Nairn Co., which operated a direct Damascus-Bagdad route. It is planned by the company to use only American machines in this service.

MR. WORLEY MAKES A CHANGE

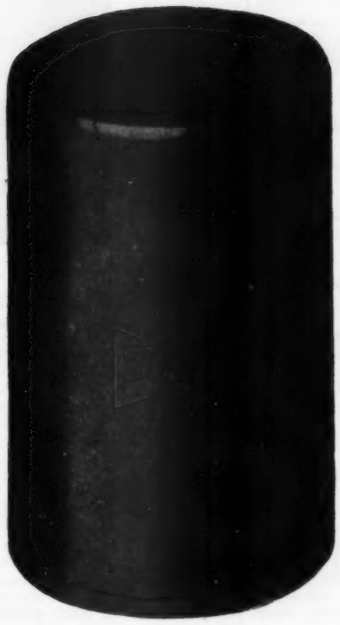
C. M. Worley, formerly district manager for the Continental Supply Co., is now factory representative in the Tulsa, Okla., territory for the Axelson Machine Co., of Los Angeles, Cal. H. P. Platenburg, Mid-Continent manager of the Axelson company, is visiting at the home office in Los Angeles.

—And Then She Parted!

The derrick could stand it and the draw-works were new, so they gave her all there was and then she parted!

Twelve lengths of tubing and *half a coupling* was all they could bring up without the fishing tools, and they were within a hundred feet of pay sand.

Had Harrisburg Forged Seamless Steel Couplings been used they might have parted the tubing, wrecked the draw-works, or pulled the derrick in, but they couldn't blame it on the couplings. For Harrisburgs are Forged Seamless from special oil field steel —no weld—no weakness. They are uniform in size, temper, thread and taper—*always*. They are the couplings you can bank on to stick with it 'till you bring in oil, and then—on to the next!



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Forged Seamless Steel Couplings

Great Britain's Greatest Oil Refinery

Description of the Plant at Llandarcy, Which Refines the Persian Crude of the Anglo Persian Oil Company

By Sir John Cadman*

Read before the British Institution of Mining Engineers on visiting the Llandarcy Refinery of National Oils, Ltd., a subsidiary of the Anglo-Persian Oil Co., Ltd.

The petroleum products refined at Llandarcy for the British market are derived from crude oil shipped from the Anglo-Persian Co.'s oil fields in Persia. The output of the Persian fields has risen from 234,000 tons in the year 1913-14 to approximately 5,000,000 tons per annum at present. The small staff which began the work has now grown to a multitude which includes about 1,000 Europeans, nearly 5,000 Indians, and about 30,000 Persian subjects. In addition the company employs in Great Britain more than 20,000 persons. The tanker-fleet engaged in the transportation of the oil from Persia to England comprises some 70 vessels of the most modern type, with a dead weight capacity of almost 600,000 tons. These ships are constantly engaged so that, on an average, one ship a day passes through the Suez Canal.

While Great Britain has been built up as a great industrial power largely through its enormously rich coal resources, there is no nation in the world to which petroleum and its products are more important than to our own. At the moment our maritime supremacy and, therefore, our very existence depend on it. To make the problem more difficult, the British Empire produces within its borders only a very small portion of the oil output of the world. Strong in the possession of our coal, we were a little slow to realize the national importance of large supplies of oil, and we started somewhat late in the race for their acquisition. But, thanks to the foresight and energy and executive ability of the pioneers of the British oil industry, amongst whom Sir Charles Greenway has played so conspicuous a part, the lost ground has more than been made good, and Great Britain is today secure in the possession of vast resources of oil for all her industrial and national requirements.

Vital Importance of Oil

One of the results of the newly-aroused consciousness of the vital importance of oil supplies, especially for the Royal Navy, and a most important step towards making such supplies secure, was the purchase by the British Government of the controlling interest in the Persian oil fields. In 1912 a Royal Commission was appointed to visit these fields and report on their potentialities. I had the honor of serving on that commission. What we saw in Persia more than justified the most enthusiastic confidence in the future of the fields, and, on the basis of our report, the Government, largely through the energetic support of Winston Churchill, then First Lord of the Amirality, decided to secure the control of this source of supply for the nation.

This was a great step towards the establishment of a British oil industry. A second was the decision to refine the oil in Great Britain. At the time the decision was made, this was regarded as a quite revolutionary proceeding, as it was then the almost universal custom of oil companies to build their refineries in proximity to the center of production, instead of, as in this case, in proximity to the center of consumption. This departure, however, from ordinary practice was resolved upon because, in addition to certain commercial advantages arising from the nearness of the refinery to the market, there was a desire to build up in this country an industry which had become so vital to all the activities of social and industrial life.

It was an experiment worth making for national reasons, and it is an experiment which has been a success. Not only has the refinery in South Wales undergone constant additions in order to keep pace with the increased output of oil from Persia and with the constantly growing demand for its products, but its successful operation has led to the establishment of other refineries of similar character, though on a smaller scale, in this country. Oil refining in South Wales is now an established industry, and while its activities are conducted largely on the broad lines governing oil refining in any part of the world, there are special features in the chemical and engineering practice at Llandarcy, which I think will be of interest.

Character of Crude

To begin with, the oil itself—Persian crude oil—is a mobile liquid, brown in color, with green flourescence. Its mean specific gravity is .837. It flows from the well accompanied by scarcely a trace of water. It is an oleosol in which small

Sir John Cadman, K.C.M.G., D.Sc.

amounts of asphaltic compounds and amorphous waxes are dispersed in a hydrocarbon continuous phase. This constitution is clearly shown by ultramicroscopic observation. The asphalts are readily flocculated by a trace of sulphuric acid, while the soft waxes are slowly deposited when the oil is allowed to stand undisturbed. The coke contains .48 per cent of nitgrogen, and the ash 2.8 per cent of vanadium, 1.7 per cent of nickel, and 2.8 per cent of manganese. The oil is chemically a "mixed base" crude, predominantly paraffinoid, with only about 1 per cent of asphalt. It possesses a notable proportion of aromatic hydrocarbons. The benzine fraction, for example, contains 10 per cent of benzine, toluene, and xylene.

The oil from the Persian fields is received at Swansea at the Queen's Dock, and is pumped through a pipe line 5 miles long to the tank farm at the refinery. These tanks,-which are built up of steel plates, have a capacity of 2,500,-000 gallons. They are situated well away from the refinery proper to minimize risk of fire. They are 116 feet in diameter and 40 feet high, and have a deadweight of less than 250 tons. From the tank farm the crude oil is later pumped to the refinery, where it is first subjected to a distillation at the crude bench.

A standard Engler distillation of the crude oil gives the following figures:

Initial boiling-point	..35° C.	
Percentage to 150° C.	..26%	sp. gr. .720
Percentage to 150-300° C.	32.5%	" .818
Residue	..41.5%	

In the primary distillation of the crude oil in continuous stills, 36 to 40 per cent is taken off. A general description of one of these benches of stills will be of assistance in following this particular operation. This bench consists of eight boiler stills 30 feet long by 10 feet diameter, fitted with internal corrugated flues, similar, except for a large vapor dome, to a low-pressure Lancashire boiler, both in appearance and design.

Stills Described

The stills are mounted on brick settings in groups of four or eight, the setting being similar to that of a Lancashire boiler steam battery, but as the oil flows from one to another, each still is set at a level 1 foot lower than the still preceding it. A perforated steam pipe passes along the bottom of each still, the steam thus injected serving to promote circulation and to act as a vehicle to carry over the vapors to the condensers. The oil passing into No. 1 still is heated to a temperature sufficient to distil off some of the light fractions; it then flows into No. 2, where the temperature is higher, and further fractions are distilled off until, on arrival at the last still, all the distillate required has been taken off.

The vapors on their way to the condensers pass through dephlegmators r columns, the function of which is to trap and return to the still heavy fractions which might otherwise be carried over. Furthermore, the column brings about a scrubbing action between the oncoming vapors and the returning condensate, thus narrowing the boiling range of the product. The columns, some 20 feet in height and 4 feet 6 inches in diameter, may be packed with iron plates, vitrified clay rings, or bubble caps.

The distilled vapor and steam are subsequently liquefied and cooled in condensers, made up of cast iron pipes, assembled in a simple rectanguler tank. The vapor passes through the coils and the cooling water is fed into the tank. The condensate is led into a tail house, where separator boxes separate the oil from the water, the latter passing to the effluent drains, while the oil gravitates into distillate receivers of suitable size, in this case 20 feet diameter by 10 feet in depth.

Residue Preheater

The residue from the last still which runs off at a temperature of, say, 400 degrees Fahrenheit, contains an appreciable amount of heat which is recoverable, and the regenerative apparatus in distillation plants of this kind is an important feature. The residue preheater in which the majority of this heat is recovered is built up of standardized and interchangeable elements, the whole, when assembled, measuring 20 feet high by 10 feet square. It has a constant fluid content of about 20 tons. It will recover from the residue sufficient heat to raise the temperature of 750 tons of crude oil per day from normal atmospheric temeperatures to a temperature of 200 degrees Fahrenheit, distil off a quantity of the light spirits, and in all has a thermal efficiency of 75 per cent.

Two of these units are provided with the bench under review, which bench has a capacity of distilling 36 per cent to 40 per cent from 1,500 tons of crude oil per day.

A point of practical interest in connection with the operation of these preheaters is the pumping of the hot residue through the nests of coils, and at this comparatively high temperature an ordinary centrifugal pump is quite satisfactory for the work, the only addition to a standard pump being that of water-cooled bearings.

The once-run distillate contains all the gasoline and some of the kerosene, while the 64 per cent residue is of the appropriate flash-point and viscosity for use as fuel oil. The once-run distillate may be refined before cutting into gasoline and kerosene, or may be redistilled before treatment. The technical removal of the sulphur compounds has presented some difficulty, but is conveniently accomplished by means of the hypochlorite process of refining.

Treatment of Oil

In the hypochlorite process the distillate is first washed with a 10 per cent solution of caustic soda. The preliminary alkali wash removes hydrogen suphide and sulphur dioxide, and organic sulphur compounds of an acidic nature. The greater part of the latter are only feebly combined with the soda, and can be removed by boiling, thus rendering the soda available for further use.

The oil is now treated with a solution of sodium or calcium hypochlorite (0.2-0.3N). Sodium hypochlorite may be obtained by the electrolysis of brine, or by the injection of bubbling chlorine through a caustic soda solution. Calcium hypochlorite is now used at Llandarcy, and the plant installed is capable of producing hypochlorite equivalent to the absorption of 15 tons of chlorine per day.

Ordinary lime slurry is charged into tanks fitted with stirring gear, and liquid chlorine is passed through the milk of lime for a definite period. The solution is partially settled, and is then syphoned off into large settling tanks, whence the clear sodium hypochlorite solution is pumped away for use. Both intermittent and continuous washing are employed. The absence of any sludge difficulties makes the counter-current continuous washing system efficient and a very simple operation.

The latest type of washer in use is of 50,000 gallons capacity. It is in effect a standard vertical cylindrical tank, 20 feet in diameter by 20 feet deep, with the addition of a conical bottom. The roof of the washer is fitted with explosion doors and vacuum and pressure valves suitably placed. Arrangements are made on the explosion door frames for luting the joints with a special clamp which preserves gas tightness, but at the same time the doors can open freely in the event of an explosion.

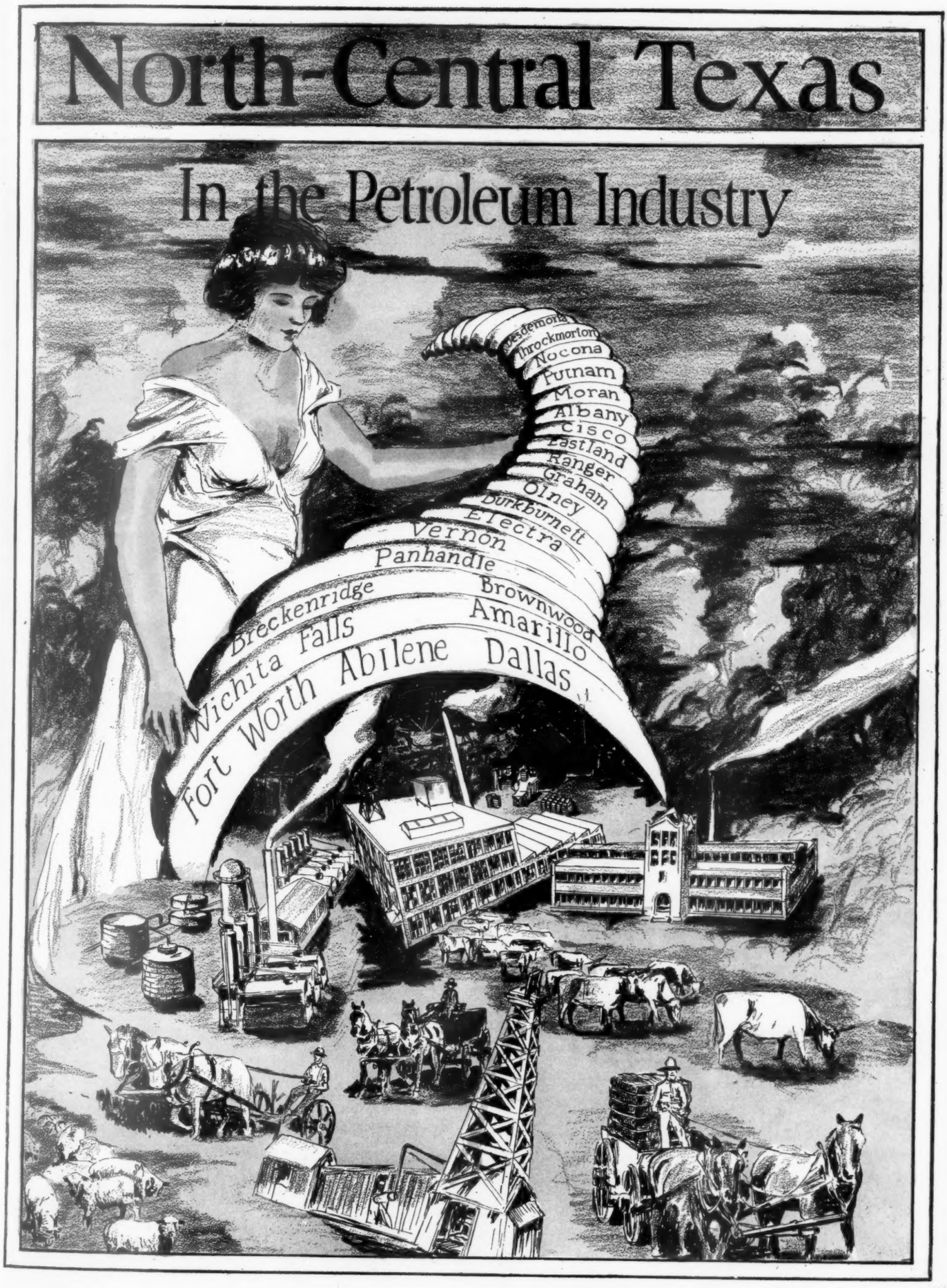
The interior of the washer is fitted with a system of spray pipes, ensuring a thorough mixture of the oil and reagents. The method of agitation is by means of a centrifugal pump drawing from the conical bottom and discharging through the spray pipes previously mentioned. In this way efficient agitation is obtained with much less consumption of energy than in those arrangements where the whole of the liquid is set in motion.

By an arrangement of pipe connections, the intermittent operation described above may be made continuous on a counter-current system by suitably connecting a battery of washers of the above particulars.

After treatment with hypochlorite, the naphtha has entirely lost its unpleasant smell, but it still contains exidized sulphur compounds. These may be to a large degree removed by washing with a 10 per cent solution of caustic soda. The

(Continued on Page 112)

*As reported in the Petroleum Times of London.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Putnam
Moran
Albany
Cisco
Eastland
Ranger
Graham
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The 3 Zones of North Central Texas

Shallow Sand Play for the "Little Fellow" and Deeper Drilling for the Well Financed, Mark That Big Field

By C. D. Lockwood

All Gaul was once said to be divided into three parts, and Gaul hasn't anything on the 250-mile strip of country known as North Central Texas. The lines of demarcation are almost as clearly drawn as the county boundaries, although on the southern end the districts overlap to some extent.

There is a sharp division, for instance, between the rotary country, known as the Wichita Falls district, and the cable tool country which takes in practically all territory south of an imaginary line drawn east and west across the middle of Young County. The third zone, however, lies on the south and west flanks of the cable tool district and may be called the "spudder" region. It includes northern Brown County, Callahan County and a large part of Shackelford County, and the play is including a part of southwestern Eastland County although no shallow production worthy of note has been found there recently.

The Shallow Sand Districts

If the matter of depth at which oil is found in these various districts is considered, the division lines are almost as sharp although there is more overlapping. The shallowest production of course, lies in the "spudder" territory. From the Burnett Pool in the northeastern corner of Coleman County, where the oil sand is reached at 350 to 380 feet, on up through Callahan County to the Isenhower Field, where the rich pay sand at 450 to 515 feet yields wells as high as 100 and 150 bbls., and then on up through the older Mogan Field and Sedwick Field to the newer Hope or Tannehill Field west of Albany, where the sands are found at 1,000 to 1,300 feet, may be considered the "spudder" or shallow sand region. Even in the Cross Cut Field, the 1,200 to 1,400-foot sands are reached with heay drilling machines without any trouble, and that type is used almost exclusively.

1,400 to 2,000 Feet

The next deepest production is in the Wichita Falls district, where practically all of the oil comes from sands between the depth of 1,400 and 2,000 feet. Nearly all of the Archer County oil is in the 1,400 to 1,600-foot sands, although down in the southern part of the county and in the northern part of Young County, this sand zone is as shallow as 960 feet at Litchfield and 1,000 feet in the new Mercer Pool just north of Olney. Over in Wilbarger County, the deepest sand is at 2,300 feet in the South Vernon Field, while there is a 2,150-foot sand that produces a little oil in the old Electra Field. The Petrolia Field in Clay County and the Nocona Field in Montague County are likewise of the shallow variety, with no producing sands as yet below 1,900 feet.

The Bend Lime Country

The third zone is the deep Bend Lime country of Eastland and Stephens counties, where many of the major concerns "tore their pants," as the saying is, a few years back during the big boom. Practically all of the Bend Lime production occurs in these two counties, although some of it slops over into the neighboring townships on all sides.

The deepest production in North Central Texas of which the writer knows is in southern Young County, just 5 or 6 miles south of Newcastle. It was The Texas Co.'s No. 1 Arnold and produced 100 bbls. initially from pay formation at 4,640-90 feet. A couple of other wells were drilled near it but were abandoned and this deep producer was eventually plugged also.

In the first two districts mentioned, the production occurs in true sand, while in the latter zone, the formation is a lime or sandy lime. Necessarily, the rate of decline in the deep Bend zone is steep while the shallow wells of the other two districts furnish some remarkable examples of staying power and often make more oil to the acre even though their initial production is much lower.

The Bend Lime production outside of the two counties, Stephens and Eastland, has been negligible, except for a small part of the Shackelford County where the Ibex Pool is located. A few Bend wells were found in Coleman County but they were insignificant. A frenzy of excitement was created in 1920 by the discovery of a large gusher known as the Vestal well just across the Eastland County line in Callahan County, but within a few days it was down to 35 bbls. and the excitement subsided almost before it got fairly started. There is a little deep production in the northern part of Comanche County, but it never amounted to much and the Desdemona Field, which was discovered in Erath County, is located so close to the Eastland County line that most of the pool slops over into the latter county.

The Strawn Sand

The Bend Lime is, of course, not the only formation that produces oil in Eastland and Stephens counties, but it includes the principal producing strata. The Strawn sand, at about 1,400 feet is now yielding some good wells near Olden, about half way between Eastland and Cisco, and some of the best leases in Eastland County during and following the boom were producing from Strawn sands at 1,400 to 1,800 feet, some of the most noteworthy of these being the Sinclair Oil & Gas Co.'s Earnest lease and the States Oil Corp.'s Anne Quiet lease, as well as several others. Some production figures on these leases and others were given in an article published in The Oil and Gas Journal on June 4 of this year under the heading, "Carter Pool Surprises Wiseacres," and showed the slow rate of decline in this sand. The decline in the lime production in the Ranger-Eastland Field was so great in some instances that offsets were never drilled around wells that started off flowing several thousand barrels. The reason was that the well was probably located in the center of a lease and by the time the company owning it had offset the line wells around its property, the big well in the middle had declined to such a low mark that production likely to be found in an offset wasn't worth the cost of drilling it. This was the case with the Texas Pacific Coal & Oil Co.'s No. 1 Norwood, biggest initial producer in the Ranger Field. Although it started with an initial of 10,000 bbls. or better, it has always stood out there alone in its glory.

Oil of High Gravity

A peculiar feature of the entire North Central Texas district is the almost uniformly high gravity of the oil in all sands. Of course, there is some very low gravity crude, but what the North Texan refers to apologetically as "low gravity" would be called cream in some parts of other States. The lowest gravity oil is in Montague County, where some of the crude tests as low as 19 degrees. Even there, however, high gravity oil has been found in some of the wells. Practically all of the Archer and north Young County production commands the top price, the gravity ranging from 37 to 41 and the general average being about 39 to 40 degrees.

In the South Vernon Field of Wilbarger County, the 1,300 and 1,700-foot sands average about 37 degrees; the 1,800-foot sand about 37.5 degrees; the 1,900-foot sand about 38 to 39 degrees; and the 2,300-foot pay tests 40 degrees. The Sigler wells are 33 degree gravity producers; the Levy Pool in the 1,400-foot pay runs 36 degrees and the highest outside of the Vernon Field is the Electra-Texas or Noble well which tests 37.5 degrees. The Tidal well which was such a disappointment from the standpoint of quantity of production was likewise disappointing as to quality for the gravity was only 32.5 degrees, the lowest in the county.

Wichita County is about like Archer with regard to the quality of its oil, the gravity range in the Electra Field being from 39 to 41 degrees, and the old Burkburnett Field being from 39 to 41 degrees, and the old Burkburnett oil is also high in gravity.

The oil from lime formations, of course, is characteristically high and the majority of Stephens and Eastland County oil runs from 38 to 40 degrees and better.

Good Oil in Shallow Sands

In the shallow sand country to the south, the Isenhower oil near Putnam in Callahan County tests 40 degrees and above, as does also the Cross Cut and Cross Plains crude. The Burkett Pool a few miles southwest of Cross Plains produces oil of only 35 degrees gravity and some other shallow sand pools in Callahan and Shackelford average about 35 to 36 degrees but this can not be termed low gravity and at the depth is a highly desirable product. The wonder well of The Texas Co., at Moran, its No. 1 Tarrant-Cloud, still producing after 11 years from about 2,150 feet, yields 42 gravity crude.

Presents Busiest Areas

The areas of greatest present activity in the entire North Texas district are undoubtedly the Vernon district of Wilbarger County, the South Archer-North Young district, the Cross Plains area, covering the corners of four counties, the eastern part of Callahan County, and in a potential way, Shackelford County. Southern Throckmorton County is coming in for its share of testing also and due to the showings of oil in the Adams and Moody gas well southeastern Haskell County will probably receive considerable attention.

Wilbarger County's record and status is taken up elsewhere in this issue, and the writer recently presented a detailed account of Archer and north Young counties in an article, "Where Deeper Drilling Has No Lure,'" in the May 28 issue of The Oil and Gas Journal. The Cross Plains district is also treated in another article in this issue so further description of the type of production and the desirability of it is unnecessary. Suffice it to say that the Cross Cut Field in northern Brown County is an excellent pool of no small size and the slow rate of decline is remarkable. The completion recently of a well making over 800 bbls. initially of 40 gravity oil at approximately 1,400 feet, while considerably higher than the field's average, shows why operators are playing that whole district and competition grows stronger every day.

Exceptional Opportunities

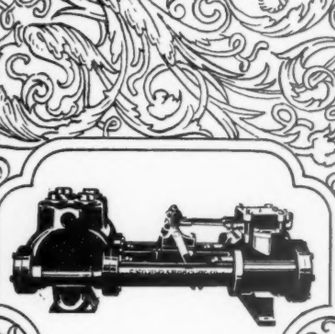
The whole of North Texas offers exceptional opportunities. Operators in Archer and Young counties will probably continue to open up new pools on acreage condemned by geologists as they have in the past, and new synclines will be proved up as excellent oil reservoirs, one after the other. The quest for the deep lime oil still goes on in Eastland County, and Adams & Moody may have opened up a new pool or pools northwest of Cisco in their Donovan and League wells, both of which are flowing small amounts of crude. There are many opportunities for new Strawn sand pools in Eastland County, such as those at Olden and Hightower, and the possibilities of the shallower pay sands in the "spudder" districts are scarcely more than touched. In addition to that, practically the whole

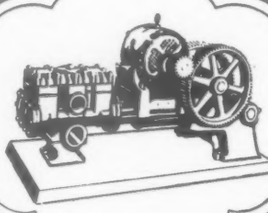
(Continued on Page 96)

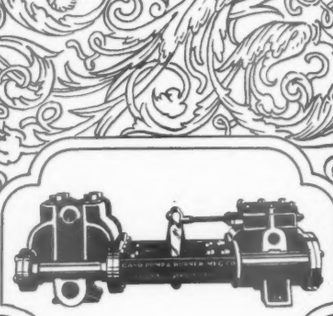
AIRPLANE VIEW OF WICHITA FALLS, TEXAS

—A. M. Nash, Commercial Photographer, Wichita Falls.

Headquarters for oil companies operating north of Stephens and Shackelford Counties.







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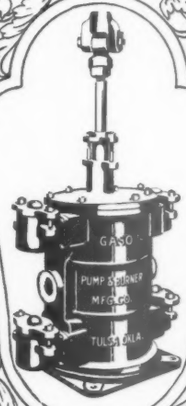

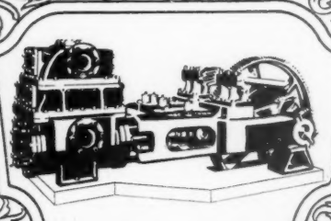

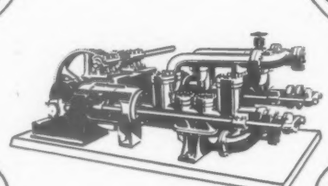

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Has Lost None of Its Attractiveness

Texas Panhandle, After 6 Years of Disappointing Work Is Yet Regarded as One of the Potentially Great Oil Fields

By George R. Kelley

Six years of more or less spasmodic efforts at the development of an oil field in the Texas Panhandle have yielded only meagre results. However these efforts have not been altogether fruitless. They have brought to light one of the largest gas fields ever developed in the United States and have established an oil producing area that gives promise of probably being larger than any in the country and that holds out some very tempting prospects to the oil operator.

Geographically speaking the Texas Panhandle is an empire within itself, covering 150 miles east and west and fully 200 miles north and south, bounded on the west by the State of New Mexico, on the north and east by Oklahoma. Its southern boundary is by no means clearly marked, even by inhabitants of that section of the State. It just extends down into the heart of western Texas.

But from the standpoint of the oil man the Panhandle covers a much smaller area. The bulk of development has been done in five counties, lying almost wholly south of the Canadian River. They are the counties of Potter, Hutchinson, Carson, Gray and Wheeler. Carson County has the largest production, with Hutchinson County ranking second. However, oil in small quantities and gas in tremendous quantities have been developed in each of the four other counties.

Over an area extending west, northwest and east, southeast for a distance of something like 75 miles, and about 15 miles in width, scarcely a well has been drilled to the proper depth that has not encountered gas in commercial quantities. Geologically it would appear that this area has a number of cross folds or domes where oil has been discovered.

Field work in the Panhandle dates as far back as the early months of 1919, the first well having been completed on April 16 of that year. This was the Amarillo Oil Co.'s No. 1 Masterson, drilled north of the Canadian River in Potter County. At a depth of 2,395 feet the well made 6,000,000 feet of gas daily.

In normal times this no doubt would have resulted in considerable work being done in the Panhandle. But it created very little interest due to the big play that was just then getting under way at Ranger, Desdemona, Breckenride and Northwest Burkburnett. For the next two years very little work was done in the Panhandle. Most of the pioneer drilling was left to the Amarillo Oil Co., organized by Amarillo men and backed by local capital.

First Oil Found in Carson County

The first oil well was drilled in the Panhandle by the Gulf Production Co. on the Four Six ranch of S. B. Burnett in Carson County. This well was completed on April 6, 1921, almost two years after the Amarillo Oil Co. had completed its first gasser in Potter County. Oil came from a depth of 3,048 feet and the initial production was 175 bbls. The well however, is averaging at present about 100 bbls. a day.

Even this did not create any great amount of excitement and for months most of the work was left to the Gulf Production Co., The Texas Co. and probably less than a half dozen of the smaller concerns. A few of the majors bought leases rather extensively but were slow to start operations. They seemed to be too busy elsewhere, or were waiting for further developments.

But there have always been a number of serious drawbacks to development in the Panhandle, not the least of which is limited transportation facilities and the lack of a market for the output of the field. These, however, would have been overcome long ago had production obtained in the field justified it. Practically all the wells drilled in the Panhandle have been located from 15 to 40 miles from the railroad, necessitating long and expensive hauling of material.

Extremely Hard Drilling

Another difficulty encountered in this area is extremely hard drilling. The upper formations are not so hard but they are sometimes hazardous. It is not at all unusual for the drill to encounter beds of quicksand, and badly caving formations are not infrequent. But the great difficulty comes when the big hard lime is encountered, usually between 2,000 and 2,200 feet, and after the hard drilling in lime comes tremendous gas pressures which have to be fought until the oil pay level is reached. A 1,000,000-foot gasser is no unusual thing in the Panhandle and many of the wells drilled there have required a battle against heavy gas pressures for months before drillers were able to complete the holes.

In the six years of hard work on the part of a few and desultory efforts on the part of many, a production of something close to 4,000 bbls. daily has been developed over an area embracing the five previously named counties and extending over an area nearly 75 miles northwest and southeast and 15 miles across. This fact alone is sufficient evidence of the disappointments the operators have suffered.

But what has gone before has had its uses. It taught the driller much. The future is much brighter and may, no doubt will, yield much more gratifying returns. Practically everything that has been done so far in the Panhandle has been exploration work. It might be said with all truth that every well that has been drilled in that great area has been a disappointment, at least to a certain degree, for every operator has been looking for and expecting something larger than has ever been discovered there.

The work in the Panhandle has not been a development work along well defined lines. Rather it has been a hunt for the tremendously big oil field that is believed to exist somewhere in this territory. Everybody believes that the best in the Panhandle is yet to be uncovered. But the task is to find it. It is not reasonable to believe that such vast bodies of gas could exist there without some connection with a much larger oil pool or pools than have been uncovered to date. Many believe the Panhandle will eventually develop into the greatest single oil field in the whole of the United States.

At least one thing appears to be certain and that is that the big producing area of this great section has not yet been discovered. It may be found next week or next month, and it may yet take another year or more of pioneering to find it. As yet the real oil producing formation has not been found there, for the oil being taken from the field comes from what is known as a granite wash which geologists contend is positively not an oil producing formation. So the big question is, from where is the oil coming?

Development Moved Eastward

Development has moved eastward, sometimes gradually, sometimes by whole counties, from the first gas discovery. This movement has been in an effort to get away from the big gas producing area and to land on the oil producing area. Much work has been done in Hutchinson and Carson Counties, where some good oil wells have been drilled, but the tremendous gas pressure has ever been present there. To the east in Gray County one small producer has been drilled by Homer F. Wilcox of Tulsa. At first this well looked as though it migh be good for around 500 bbls. a day, but at present it is averaging only about 12 bbls. daily. Still farther east and over in Wheeler County, another producer was drilled by Whittington and associates of Amarillo. For awhile this well made as high as 1,000 bbls. a day, but now it is not making more than 70 bbls. daily.

So it has gone with practically every well drilled in the Panhandle country. The American Refining Co.'s No. 2 Burnett, in Carson County, is the largest well ever drilled in the area. For a few days it made as high as 2,000 bbls. daily but in two weeks' time it slumped off to 500 or 600 bbls. and today is doing much less. So all the facts pertaining to the development of the field support the contention that the real oil producing area has not yet been discovered.

Large Paraffin Content

The Panhandle seems to have a grade of oil all its own. Experienced oil men say that nothing like it has been found anywhere else in the United States. The gravity of the oil is around 37 degrees. It has a fair gasoline content but contains such a large amount of paraffin wax that congeals at a temperature of about 50 degrees Fahrenheit. This fact makes the handling of the oil a rather difficult problem during the winter months, for there is a lot of 50-degree weather in the Texas Panhandle. In many instances it has been found necessary to heat the oil in order to force its passage through the pipe lines.

It may be said that Panhandle producers have never had an open market for their output. As yet the field has no big pipe line outlet, and for years had none at all. A little over a year ago two small outlets were completed to the field. One of these was a 6-inch line by the Pan-Tex Pipe Line Co., which is generally recognized as being very closely connected with the Coline Oil Co. This line extends from the producing area in Carson County to Amarillo where an outlet is had to a small refining plant, but the Santa Fe Railroad system is understood to be the principal outlet.

About the same time that this line was built a group of Wichita Falls operators projected a 4-inch line into the field. This extends from the field in Carson County also, connecting with loading rack facilities at the town of Panhandle, about 25 miles from the field. At present, however, these two lines are amply able to care for the output of the field.

Very Little Gas Marketed

It may be many months yet before the Panhandle provides a big oil field, but it is today one of the real big gas fields of the country. Only the wildest guess can be made at the potential gas production of the district. No effort has ever been made to market but the slightest portion of the gas produced in the area. The Amarillo Oil Co. laid a line into the city of Amarillo which affords the only outlet for the big gas production. A few million feet is used there daily for domestic and commercial purposes, a zinc smelter taking probably the major portion of that utilized.

Here again the field is at a disadvantage in marketing its output. It is too far from any large centers of population. It is nearly 400 miles from Fort Worth and Dallas, slightly farther from the city of Denver, and about 500 miles from Kansas City. North Texas and Oklahoma centers of large population do not need the gas and, at present at least, the expense of making connections with other large centers appears prohibitive.

The statement has been made that the Panhandle gas territory could furnish enough gas to supply the needs of half the country's population. Of course the statement is not meant to be literally true, but is made to convey some idea of the vast possibilities of this great gas producing field. While the gas production is very large in this area, some of the wells running as high as around 200,000,000 feet daily, and many of them running above 100,000,000 feet daily, the rock pressure is comparatively light. The usual rock pressure is around 500 to 700 pounds.

So the hunt continues for the elusive oil field, and the one question is, where to go to find it. One thing has been settled definitely and that is that it is not to be found above the present producing level. Also it has been pretty well settled that it will not be found below this level, at least at any reasonable depth. Some wells have been carried to 4,000 and 5,000 feet in the Panhandle but found no oil below the one producing horizon. In the southern part of Hutchinson County, within the producing area, the Gulf Production Co.'s No. 1 Dial, which is a producer, was drilled to a total depth of 3,733 feet and later plugged back to the 3,000-foot level. Below the regular producing horizon nothing was encountered but water.

Big Companies Strongly Entrenched

The Panhandle has attracted to its borders nearly all of the big operating concerns. Scarcely a major that is operating in Texas that has not taken a chance in this great district and all of them still have extensive holdings here, some of which are being developed at the present time. Then, too, from North Texas and Oklahoma have come dozens of individuals and smaller oil companies to try their hand in the Panhandle.

The Gulf Production Co., the Prairie Oil & Gas Co., The Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Roxana Petroleum Co., Marland Oil Co., Empire Gas & Fuel Co., Pure Oil Co., and the Amarillo Oil Co. are among the larger concerns that have been or are now actively engaged in development work in this district. And just recently the Midwest Refining Co., through a subsidiary concern, the Midwest Exploration Co., has become extensively interested through the purchase in Wheeler County of a part of the holdings of Whittington and associates of Amarillo.

A little more than a year ago the Prairie Oil & Gas Co. became extensively interested in the Panhandle through the purchase in that territory of the properties of the Producers & Refiners Corp. and a large interest in the properties of the Amarillo Oil Co. There was no oil production involved in the deal, which consisted largely of acreage and gas producing properties. For a while there was considerable talk that the Prairie would develop the vast gas producing leases and start the marketing of the gas, but so far very little has been done in this direction. A part of the properties taken over by the Prairie formerly belonged to the Mountain States Pipe

(Continued on Page 94)

Nightmare Anticline Hard to Believe

But Queer Throckmorton Structure Is Finally Getting the Play Its Discoverer Thought It Deserved

By C. D. Lockwood

"The Nightmare Anticline" is the descriptive and appropriate title that has been bestowed upon the queerly faulted structure in southern Throckmorton County, North Central Texas, which is shown on the accompanying may and which, singularly enough, now displays the largest well in that hitherto disappointing county.

This peculiar structure has probably been christened by several geologists in the course of the past nine years and doubtless most of the names were of a humorous or sarcastic or even wrahtful nature, for there have been few geologists who would accept the map as a true representation of conditions in that area. The name of "Nightmare Anticline" however, was the contribution of J. Elmer Thomas, former chief geologist of the Shaffer Oil & Refining Co., and now an independent operator of Fort Worth, Tex.

While the structure was worked out and the map was drawn by Roy A. Reynolds as early as 1916, and the location for a test recommended at that time was exactly where the Schimmel Oil Co.'s producer stands today, the structure was never tested because it looked too much like a veritable nightmare. At that time, Mr. Reynolds was head of a geological party for the Empire Gas & Fuel Co. and the party maintained a camp for some time on the banks of the creek less than one-half mile east of what is now the producing location. Nothing was then known of any such faulted condition in north Texas as his map of this area portrayed and although the Empire Gas & Fuel Co. blocked up several thousand acres in the vicinity, no effort was made to test this structure and eventually all of the acreage was permitted to lapse without except about 3,500 acres to the aest. The structure was simply so different from any other producing structure in north Texas that nobody cared to risk money on it.

Reynolds Faith Not Shaken

Mr. Reynolds clung to his original idea, however, and insisted that the location was a logical one for the accumulation of oil. As a result, last year he and W. T. Garrett of Eastland assembled a block of 3,600 acres which was obtained for the drilling of two wells, both of which were to go to 3,000 feet. Of this acreage, 1,500 acres was obtained from the Empire out of the 3,500 that that concern had retained through the years.

Producers, geologists and land men were still skeptical about this "Nightmare Anticline," however, and it was almost six months before engagements were completed with the Schimmel Oil Co., of Fort Worth, to drill the two required tests.

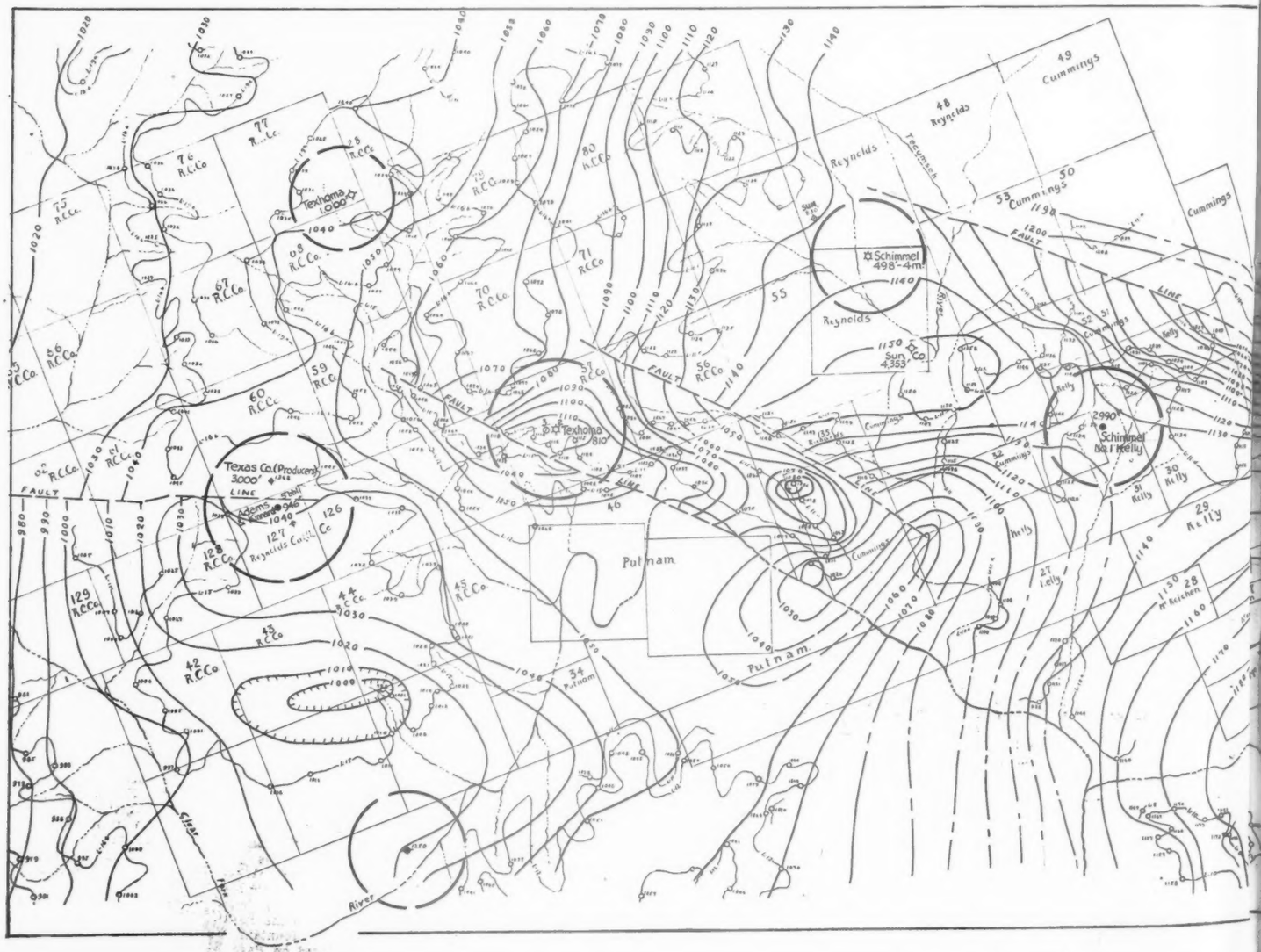
In November of last year Mr. Reynolds staked the location for No. 1 Kelly, and drilling finally got under way about the first of the year. After various kinds of hard luck including the death of Jake D. Schimmel, head of the company, who was killed in an automobile accident during a heavy snowstorm last winter, and the serious illness of his son, Vernon Schimmel, later in the year, the well was finally drilled to the sand at 2,900 feet, about three weeks ago and and gave promise of being the best producer up to date in the county, averaging better than 100 bbls. daily during the first two weeks and increasing to nearly 200 bbls. a few days ago.

This was of course not the first well drilled in that area covered by the map. There are too many wildcatters who pay more attention to the "lay of the land," or such indications as how a derrick would look in a patricular location to let a district entirely alone even if it is a rock hound's bad dream. In this case, however, two companies with competent geological staffs did the only deep exploration work prior to the Schimmel well and neither turned out to be in a favorable spot.

Both were drilled several years ago. The Sun Oil Co.'s No. 1 Reynolds ranch, located to the northwest of the Schimmel Oil Co.'s Kelly No. 1, in the southeast corner of the Alvin Tarter survey, was started in April of 1918. One hole was junked for some reason and the rig skidded the following year and drilling resumed. Late in 1919, the hole was abandoned at 4,353 feet.

The showings of oil were encountered in this test. The first was at 2,855 feet, and the second, a showing of both oil and gas at 3,010 feet.

The other deep well was drilled in Section 21 of the Comanche Indian Reservation by the Producers Oil Co. (The



Texas Co.) and was abandoned as a failure at 3,470 feet.

The producing horizon found in the eastern part of the county by the Humble Oil & Refining Co. and the Reiter-Foster Corp. on the Stubblefield land is a mark which the Schimmel Oil Co. still has to shoot at below present-day level, and the depth to this level is estimated by Mr. Reynolds at approximately 300 feet deeper, although he says that is purely an estimate, there being no data on which to make a close guess.

Completions and Tests

The other wells shown on the accompanying may are all shallow gassers, dry holes, or small shallow producers. The Schimmel Oil Co. found a nice gas well, estimated by scouts as good for 4,000,000 feet of gas at 498-502 feet in their No. 1 on the Alvin Tarter survey, northwest of the old Sun Co. duster. It was completed early in April of this year, and is used for fuel in other drilling wells.

The Texhoma Oil & Refining Co. and J. D. Collett have a nice gasser at 810 feet in their No. 2 in Section 57 of the Comanche Indian Reservation, and are using it for fuel in drilling their No. 3, which is now below 1,200 feet. The Texhoma's No. 1 was a duster. It was located in Section 77, a little more than 1 mile northwest of Nos. 2and 3, and was abandoned at 1,065 feet.

The producer, which is shown in Section 127, about 1½ miles west of the Texhoma gasser, and just south of the old Texas Co. dry hole, was a very small well, having made only 5 bbls. at 940 feet. It was drilled about a year ago.

Seven miles south of the Schimmel No. 1 Kelly, Larkin and others drilled a 15-bbl. well about three months ago. The depth was 1,831-34 feet, but the sand also contained considerable water.

Another Schimmel Oil Co. test that will be watched with considerable interest is located about 3 miles east of the Kelly No. 1 producer. It is listed in the reports as Schimmel and others' No. 1 Stacy, and is of special interest because of the perfect"text book" structure on which the map shows it to be located. It was underreaming 10-inch casing to 1,440 feet at latest report. If the ideal anticline is there as mapped, the well certainly has an excellent chance of producing oil in some amount.

Looked Like Comic Section

Mr. Reynolds has some humorous stories to tell concerning the reception of his map of this area not only when it was first made but on various subsequent occasions. He says that it has often been laughed at, mainly by those who sit in their offices and say that a curving fault such as he shows just to the west of the "textbook structure" is a figment of his imagination. But while the character of this strip of country is such that no two geologists perhaps would go in here independently and map it alike, all of the faults and peculiarities which are shown on the map can be pointed out on the ground, and after several checkings and re-checkings, he is convinced that in all important details the map is as nearly correct as it can be made from present available information.

Mr. Reynolds tells about taking a competent geologist who was skeptical of the whole thing over the ground and pointing out the details one by one. After they had traversed the whole strip Reynolds said, "Well, there she is." And the other rock hound replied, "Damned if she ain't."

This peculiarly faulted area of Throckmorton County extends for about 20 miles in a general east and west direction. The western edge of the map is about the western limit of it, the faults extending not more than a mile or so farther west. But they extend about 12 miles east of the eastern edge of the map.

While there have been several deep tests in Throckmorton County, the majority of wells drilled there, as outlined in a previous article in The Oil and Gas Journal, have been shallow tests, the result of operators from the Wichita Falls region trying to uncover new shallow oil of the Archer County variety. The southern portion of the county apparently offers little encouragement to the shallow producer and so far not much more than encouragement to the man from the cable tool district but the fact that 75-bbl. and 200-bbl. wells have been found in the Stubblefield and Kelly wells respectively is bound to cause considerable further development and the chances are good that one of these days a real paying field will be opened up in southern Throckmorton County.

A few other wells which are drilling south of the town of Throckmorton should be listed. Approximately 5 miles southwest of Throckmorton, in the southwest quarter of the northwest quarter of Section 224, B. B. B. & C. Survey, E. L. Smith is drilling his No. 1 Burchalter at 1,350 feet. The Domestic Oil Corp. is also drilling at about 1,450 feet in its No. 1 Burchalter, Section 8, Day Land & Cattle Co. Survey, about 6 miles west of E. L. Smith's test.

Northwest of the Schimmel producer several miles, T. B. Hoffer and others are down about 1,350 feet in their No. 1 Reynolds Cattle Co., located in the center of the southeast quarter of the northeast quarter of Section 195, B. B. B. & C. Survey.

Two miles south of Throckmorton, Harrison and others were drilling below 1,300 feet in their No. 1 Howsley, in the southwest quarter of the northeast quarter of Section 291 B. B. B. & C. Survey.

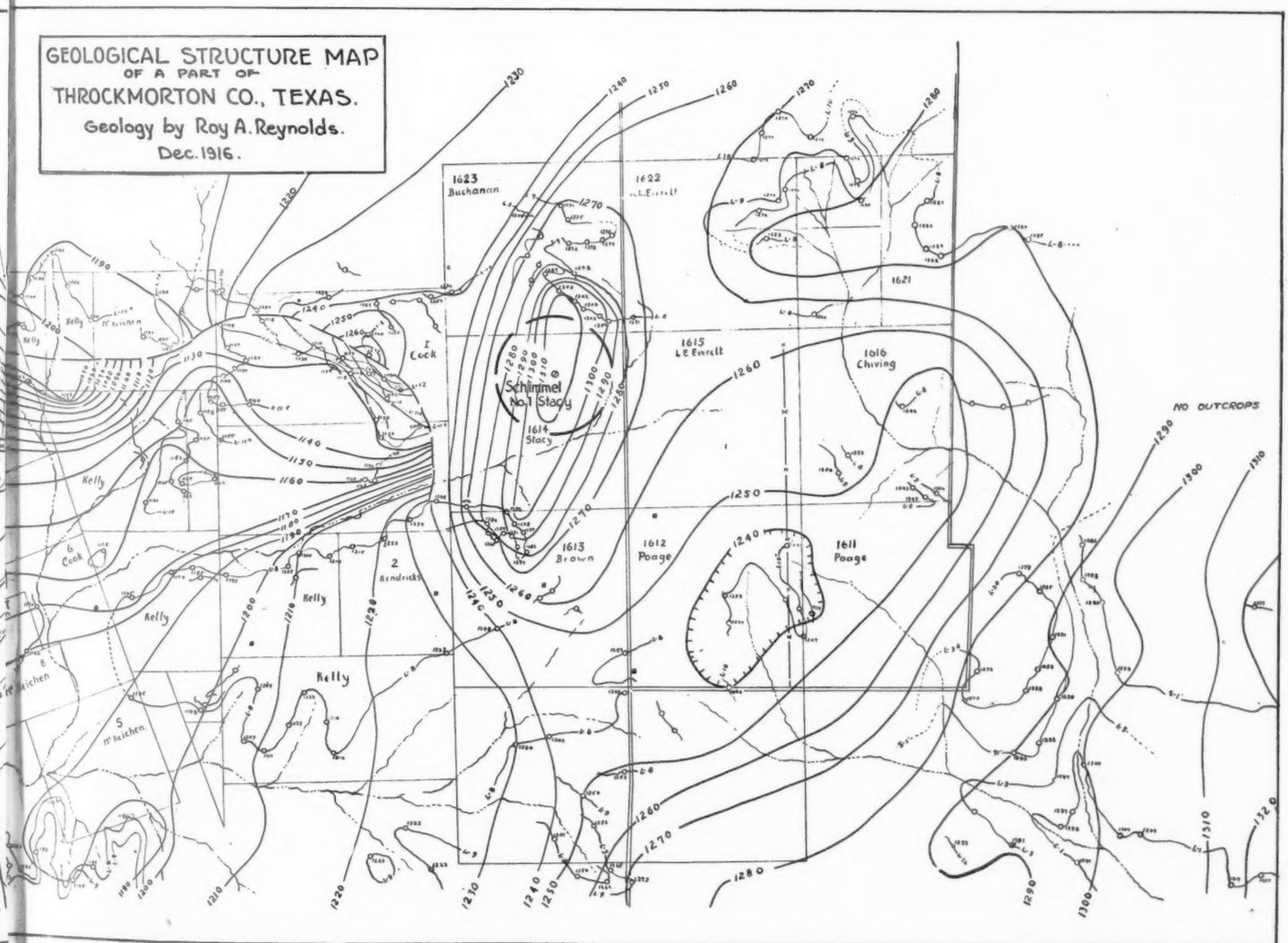
About 2 miles south of the Texhoma gasser shown on the accompanying map, Schimmel and others have shut down their No. 1 on the Putnam land, J. M. Larn Survey, for water at 910 feet.

The future possibilities of the Humble-Reiter-Foster Pool, northeast of the town of Woodson, will probably be better known shortly if wells drilling in that vicinity are completed without undue delays. The Red Bank Oil Corp's No. 1 in the northwest quarter of Section 2,206, Premium Surveys, was attempting to drill past a bit at 2,405 feet and may be the next well to reach the producing horizon. It is north of the field. Two and a half miles to the north of the field, the Texhoma Oil & Refining Co. and Hunter's No. 1 Graham, was drilling at 1,100 feet.

About 6 miles southeast of Throckmorton, Staley & Wynne were drilling at 1,650 feet in their No. 1 Cole, Section 1,626, Premium Surveys. The Humble's offset of its producer is fishing at 700 feet and Reiter-Foster Oil Corp's offset was drilling below 1,450 feet.

WILL DO SPECIALIZED WORK

R. F. Schofield, who for four years was a geologist for the Roxana Petroleum Corp., has resigned to enter consulting work. He will specialize in the geology of the Rio Grande Embayment.



An Attractive Shallow Sand Play

Southern Shackelford and All Callahan County, Known as the Moran-Putnam Area, Offers Good Promise to Operators

By George R. Kelley

FORT WORTH, Tex., Aug. 17.—In the North Central Texas territory there is an area embracing the extreme southern part of Shackelford County and the major part of Callahan County, immediately to the south, that is attracting about as much if not more interest than any other area in this district. In fact this is one of the most intensively active spots anywhere in North Central Texas.

The very attractive feature in connection with this Moran-Putnam area, as it can be designated until expansion necessitates a larger designation, is the shallowness of the sands, the presence of numerous producing horizons and the inexpensive methods employed in drilling. Then, too, during the past six months some of the major companies seemed to have been always ready to pay good prices for producing properties in that district, one of them having spent close to $1,000,000 already this year for producing properties there.

Many of the so-called major companies and scores of smaller concerns and individual operators are now interested in the Moran-Putnam district. The Texas Co. has been the pioneer in that territory and during recent months has been joined by many others, among them the Simms Oil Co., the Humble Oil & Refining Co., the White Eagle Oil & Refining Co. and the Midwest Exploration Co. Recently the Humble company has taken the lease on between 15,000 and 20,000 acres of land in Callahan County, practically all of which lies well without the old Moran-Putnam district and the Midwest Exploration Co. has taken the lease on about 10,000 acres.

Besides these and the innumerable little producers that have been in the district for a year or more, much other leasing is being done. Westheimer & Daube of Ardmore, Okla., have leased about 2,500 acres; Fagan and others also of Ardmore, have about 10,000 acres and the Deep Rock Oil Co. and Gibson & Johnson have both recently taken up large blocks of drilling acreage.

Discovered in 1913

The old Moran Field is one of the oldest fields anywhere in North Central Texas, having been discovered and pioneered by The Texas Co. in 1913. Naturally this big company has followed the development of this shallow sand area in all its meanderings and now because it practically controls the pipe line situation in the shallow belt is one of the main factors in the development of the field. Not only has this big company always assisted the scores of small operators in the field in every reasonable way but it has always paid the market price for the output of the field regardless of whether there was any competition on the purchasing end of the line. Then, too, the company has bought largely of proven and developed properties in the shallow field. During this year alone, The Texas Co. has purchased the properties of probably a half dozen of the smaller producers in the field. At any rate the company has paid out in cash just about $1,000,000 already this year for production in this shallow field.

There is a multiplicity of producing sands in this shallow belt. At Moran proper there are sands at approximately 300, 400, 500, 600 and 700 feet in addition to a deeper pay level at 2,100 feet, while in the Putnam area there are sands at about 300, 400 and 500 feet, besides a deeper pay level at 1,700 feet. Practically every bit of the drilling, particularly to the upper sands is done with machines which does away with the heavy expense of derricks and all heavy drilling machinery.

As a usual thing the wells that go to the sands from 300 feet to 700 feet are drilled and put on the pump within from three days to a week's time. These wells come in with an initial production, depending on depth and the thickness of the sand, of from 10 bbls. to 100 bbls. and in a few instances wells making 150 bbls. flush have been drilled in the 600-foot sand. During the first few months, of course, the flush production declines somewhat rapidly, but after a year's time the wells are on a fairly stable daily output ranging from about 2 to 3 bbls. to as high as 20 or 30 bbls. daily.

Gravity Varies, High Predominating

Gravity of the oil produced in this shallow sand belt runs from a low of 28 degrees to a high of 42.5 gravity. However, a very large majority of the oil produced there has a gravity ranging from about 33 to 37 degrees. Therefore, the majority of the oil brings a price ranging from $1.80 per barrel to as high as $2.12 per barrel. Probably the average per barrel for the entire district would be $2 per barrel at the present level of crude prices. Production from the shallow sands, including those at Moran in Shackleford County, runs an average of something like 5,000 barrels daily which means an income to the producers of the belt of about $10,000 daily.

Due possibly to the fact that the Moran-Putnam area has never at any time developed any big flush production there has never been any difficulty in marketing the output of the field. The major part of the production is run by The Texas Pipe Line Co., though the Humble has a line into the Ibex district, which is a deep field to the east of the Moran shallow sand district.

Deeper Pay Horizons

While development of the shallow sand possibilities of southern Shackleford and Callahan Counties continues at a rapid rate, a big play is being made now for deeper producing horizons over much of Callahan County. During recent months there has been a greater leasing play in Callahan County than in any equal area in the North Central Texas territory.

At the town of Cross Plains in the southeastern part of the county a good pay sand has been found at around 1,450 feet. At Putnam there is a 1,700-foot pay sand and just to the east of the town of Baird a good looking sand that produces in fair proportions has been found at 1,990 feet. The general impression is that this is all the same sand and that the difference in depth is due to difference in elevation or dips in the producing formation. So this is responsible more than anything else for the big leasing and development campaign that is now under way in Callahan County.

Scores of geologists have been working in all sections of the county for months and are still making accurate surveys of the territory. Practically everything in the county that shows any geology is being leased and locations have been made for a number of deep tests in addition to the large number of shallow and semi-shallow wells that are to be drilled.

MOST OF TEXAS FAVORABLE FOR THE PRODUCTION OF PETROLEUM

The Committee of Eleven of the American Petroleum Institute looks with great favor on the State of Texas as a future producer of crude petroleum. According to the judgment of the committee, almost of all of Texas has possibilities of yielding oil, and the committee so reported recently to the Institute.

Texas' producing area, according to the report, consists of 162,128 acres. The area classed as proved but undeveloped consists of 423,000 acres. The total of the land in these two divisions is 585,128 acres, a fractional part of 1 per cent of the total area of the State, which is 174,300,000 acres approximately. The area left after subtracting producing and proven but undeveloped acreage is 173,748,872 acres. Of this enormous area, only 22,081,980 is classed, in the light of present knowledge, as unfavorable for oil—slightly more than 12 per cent. The approximately 88 per cent remaining, 151,666,892 acres, is classed as land in which oil may be found.

This includes oil to be found in territory as yet not thoroughly explored, and oil to be found at levels beyond which the drill has yet penetrated in the State—most of Texas production at this time being classed as shallow and semi-shallow.

Production Reserve

The committee finds Texas' total production to date at 885,574,113 bbls.

It is estimated that the present producing wells of the State, under present operating methods, and present market conditions, will produce more than 520,000,000 bbls. more—more than a billion dollars' worth of oil, figured at a price of $2. In addition to that it is estimated that there will remain 211,500,000 bbls. more recoverable under present methods of flowing and pumping at a higher price for oil than prevailing now—these being in territories where operation after production falls low is more expensive. Total is as much as that produced to date.

After this, it is estimated, there will remain 1,617,614,000 bbls. more after production by present methods fails. Much of this—the greater part—is believed recoverable under methods to be employed when present producing methods are no longer economical, including mining and by the use of artificial pressures and the like.

This amount of oil is on the present producing or proved areas, and does not, of course, include oil which may be found in the great unexplored area in which it is expected oil may be found.

Big Part of United States Total

The latter division of Texas area comprises approximately 13 per cent of the "billion-acre reserve" which the A. P. I. committee pointed to as the source of the future oil production of the country. The area of the State is only about 8 per cent of the total of the United States.

Two Texas oil men were members of the committee of eleven making the report—J. Edgar Pew, vice president of the Sun Oil Co., president of the Institute, and W. S. Farish, president of the Humble Oil & Refining Co. In addition E. W. Marland, president of the Marland Oil Co., a leading factor in Texas operations, was on the committee.

The data bearing on Texas' future supply was compiled by Wallace E. Pratt, chief geologist of the Humble Oil & Refining Co.; W. B. Pyron, vice president of the Gulf Production Co. and Alexander Duessen, formerly consulting geologist, now an official of the Marland Oil Co., of Texas. They were assisted in their work and formation of conclusions by many leading oil executives and geologists of the State.

Texas Production Is Controlled by Local Folding or Faulting

In its recent report on American Petroleum Supply and Demand submitted to the American Petroleum Institute by a committee of eleven prominent oil men the geologic problem of the Southwest is given considerable attention. That part of it which has reference to North and Central Texas is as follows:

The complex features of the geology of the Mid-Continent make it very difficult reliably to predict production on Mid-Continent structures. The irregularity of the sands, especially in the lower horizons above the main unconformity (there are several additional minor unconformities), makes the oil accumulation entirely depenedent upon the presence, the thickness and grain of such sands. Sometimes certain trends of these sands may be deduced, indicating old beach lines, sand flats, or tidal spits. Usually, however, this is not the case, and only the drill can determine the direction of sand persistence. Likewise, only drilling can tell us, in many cases, whether in a producing oil field, the underlying Ordovician sands will be found preserved and favorable for production.

As our knowledge of the regional geology improves from the over-increasing number of well logs, some of these uncertainties can be solved beforehand, through a better knowledge of the paleogeography of the region and resultant trends.

In Texas no production is known which is not controlled by local folding (or faulting) if we include structure caused by setting or sagging. Even in Archer County where accumulation is very erratic, it is controlled by noses, which can be followed by careful mapping of surface beds. There are numerous regions, however, where oil accumulation on the structure can only be located by drilling because it is dependent upon deposition, or limestone porosity, or other factors, which are often as important as the structure itself. The principal areas of this class are:

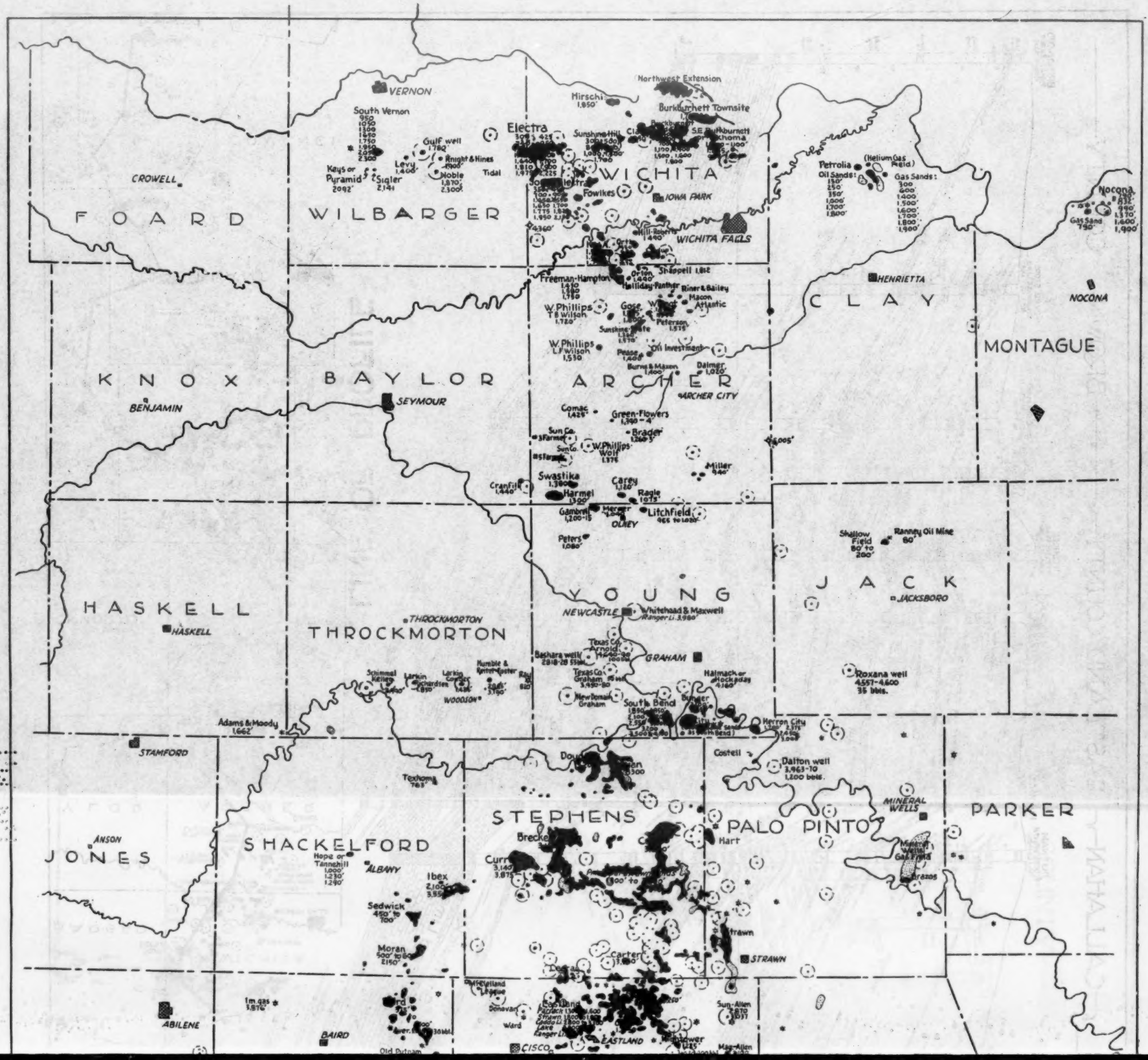
Cisco production in Archer County and surrounding; Strawn and Bend production on the Bend Arch; production in the Panhandle; Edwards production in the Luling region.

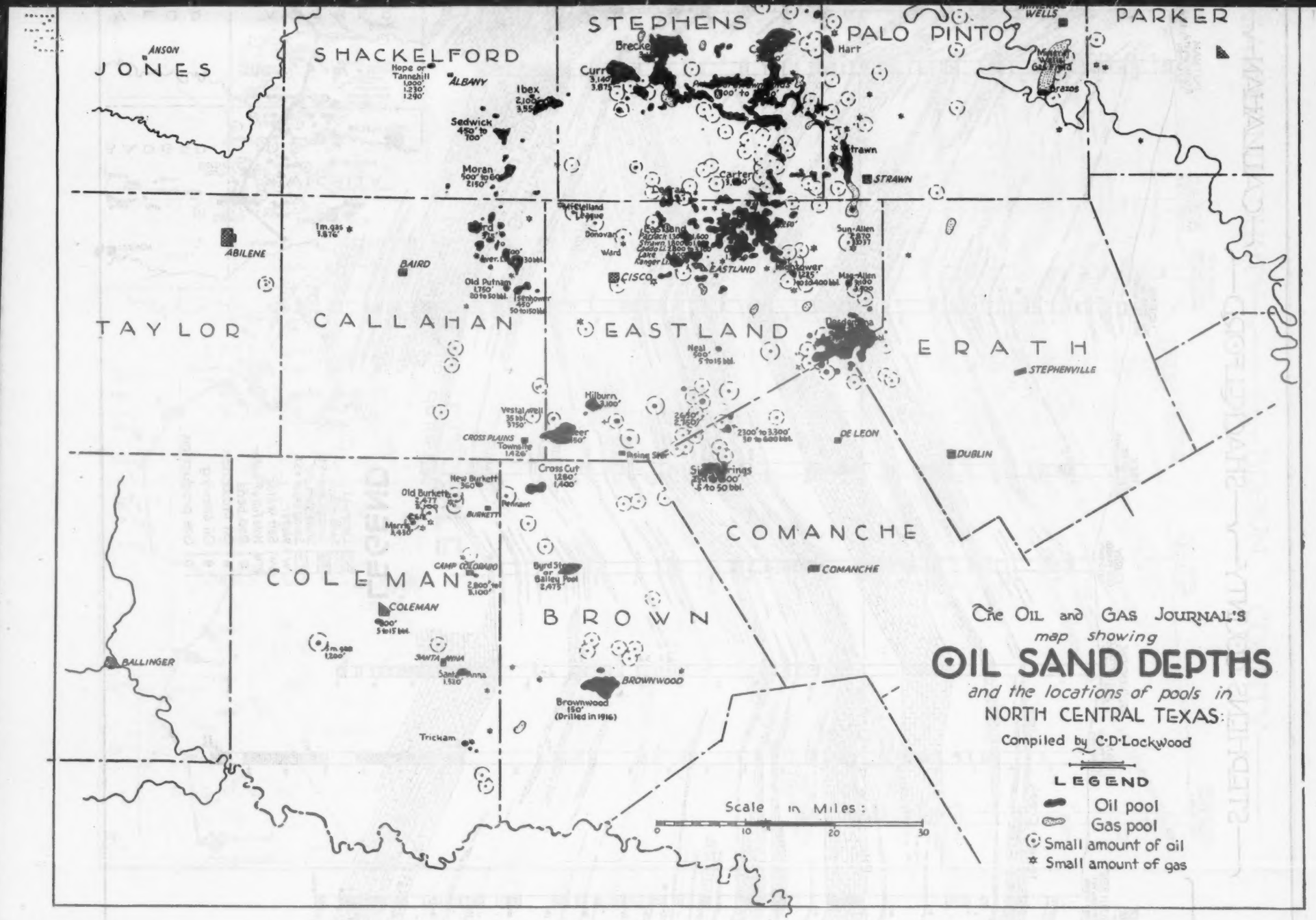
Furthermore there is another wide region where, although oil accumulation is clearly caused by structure, such structure cannot now be determined in advance of drilling, although it may be possible to do so in the future. The principal areas of this class are:

Permian production on the high plains of West Texas; Tertiary production in the southwest, between San Antonio and the Rio Grande.

DOWLING BACK FROM VISIT

J. L. Dowling, vice president and general manager of the Texas Pipe Line Co., has returned to his Houston office after a prolonged trip through the North and West Texas fields. Mr. Dowling's introduction to the oil business was back in Venango County, Pennsylvania.


VERNON
Northwest Extension
Hirschi 1,850'
Burkburnett Townsite
South Vernon 950 1050 1300 1650 1750 1950 2092 2300
Electra
Gulf well 1782'
Knight & Hines
Tidal
Levy 1,400'
Keys or Pyramid 2092'
Sigler 2,141
Noble 1,870' 2,300'
Sunshine Hill
S.E. Burkburnett
WICHITA
Petrolia
(Helium Gas Field)
Oil Sands: 150' 250' 350' 1,000' 1,700' 1,800'
Gas Sands: 300 600' 1,400' 1,500' 1,600' 1,700' 1,800' 1,900'
Nocona
Gas Sand 750'
CROWELL
FOARD
WILBARGER
Fowlkes
IOWA PARK
WICHITA FALLS
Hill-Roberts 1,440'
Orton 1,440'
Shappell 1,812
Freeman-Hampton 1,410 1,460 1,780
Halliday-Panther
Riser & Bailey
Mason
Atlantic
W. Phillips T.B. Wilson 1,720'
Gose
Peterson 1,515
Sunshine-Slate 1,640' 1,670'
W. Phillips L.F. Wilson 1,530
Oil Investment
Pease 1,400'
Burns & Mason 1,400'
Dalmer 1,020'
HENRIETTA
NOCONA
CLAY
MONTAGUE
KNOX
BAYLOR
ARCHER
ARCHER CITY
BENJAMIN
SEYMOUR
Comac 1,425'
Green-Flowers 1,390 - 4'
Sun Co. 3 Farmer
Brader 1,260'
Sun Co. 1 Farmer
W. Phillips Wolf 1,375
Miller 940'
Swastika 1,360'
Cranfill 1,440'
Harmel 1,300'
Carey 1,320'
Ragle 1075'
Gambrel 1,200-15
Litchfield 965 to 1,020'
OLNEY
Peters 1,080'
Shallow Field 80' to 200'
Ranney Oil Mine 80'
JACK
JACKSBORO
YOUNG
NEWCASTLE
Whitehead & Maxwell Ranger Li. 3,980'
HASKELL
HASKELL
THROCKMORTON
THROCKMORTON
Texas Co. Arnold 1,000-20
Bashara well 2818-28 55bbls
GRAHAM
Texas Co. Graham 3,490-80
Schimmel Kellogg
Larkin Richardson 1,850'
Larkin Carter
Humble & Hunter-Foster
Ray 810'
WOODSON
Newbonak Graham
South Bend 1,860' 2,100' 2,930' 3,500'
Halmach or Mockaday 4,160'
Roxana well 4,557-4,600 35 bbls.
Herron City 2,375' 2,410' 3,000'
Adams & Moody 1,662'
STAMFORD
Texhoma 765'
Costell
Dalton well 3,963-10 1,200 bbls.
STEPHENS
PALO PINTO
PARKER
MINERAL WELLS
ANSON
JONES
SHACKELFORD
Hope or Tannehill 1,000' 1,230' 1,290'
ALBANY
Ibex 2,100' 3,55
Sedwick 450' to 700'
Moran 500' to 60 2150'
Brecke
Curr 3,140' 3,875'
Hart
Strawn
STRAWN
Carter
Brazos
Donovan
Ward
Sun-Allen 3,870 3,917
Mag-Allen
ABILENE
Im. gas 3,976'
BAIRD
CISCO
EASTLAND


STEPHENS
PALO PINTO
PARKER
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SHACKELFORD
ANSON
ABILENE
TAYLOR
CALLAHAN
EASTLAND
ERATH
COLEMAN
BROWN
COMANCHE
BALLINGER
ALBANY
BAIRD
CISCO
EASTLAND
STRAWN
STEPHENVILLE
DE LEON
DUBLIN
COMANCHE
BROWNWOOD
COLEMAN
CROSS PLAINS
BURKETT
SANTA ANNA
Hope or Tannehill 1,000' 1,230' 1,290'
Ibex 2,100' 3,55
Sedwick 450' to 700'
Moran 500' to 60 2150'
Curry 3,140' 3,875
Brecke
Hart
Mineral Wells Gas Field
Brazos
Carter
Sun-Allen 3,870 3,937
Old Putnam 1,750' 20 to 50 bbl.
Eisenhower 450' 50 to 150 bbl.
Eisenhower 1215' to 2,400 bbl.
Mac-Allen 3,900 3,900
Neal 560' 5 to 15 bbl.
Hilburn 3,100'
Vestal well 35 bbl. 3150'
Townsite 1,426'
2640' 2,760'
2300' to 3,300' 50 to 600 bbl.
Cross Cut 1,280' 1,400'
New Burkett 360'
Old Burkett 2,477 2,500'
Merrick 1,410'
Bryd Strawn or Bailey Pool 2,475'
2,800' to 3,100'
5 to 15 bbl.
1,200'
1,520'
Brownwood 150' (Drilled in 1916)
Trickam
Scale in Miles:
0
10
20
30
The OIL and GAS JOURNAL'S
map showing
OIL SAND DEPTHS
and the locations of pools in
NORTH CENTRAL TEXAS:
Compiled by C·D·Lockwood
LEGEND
Oil pool
Gas pool
Small amount of oil
Small amount of gas

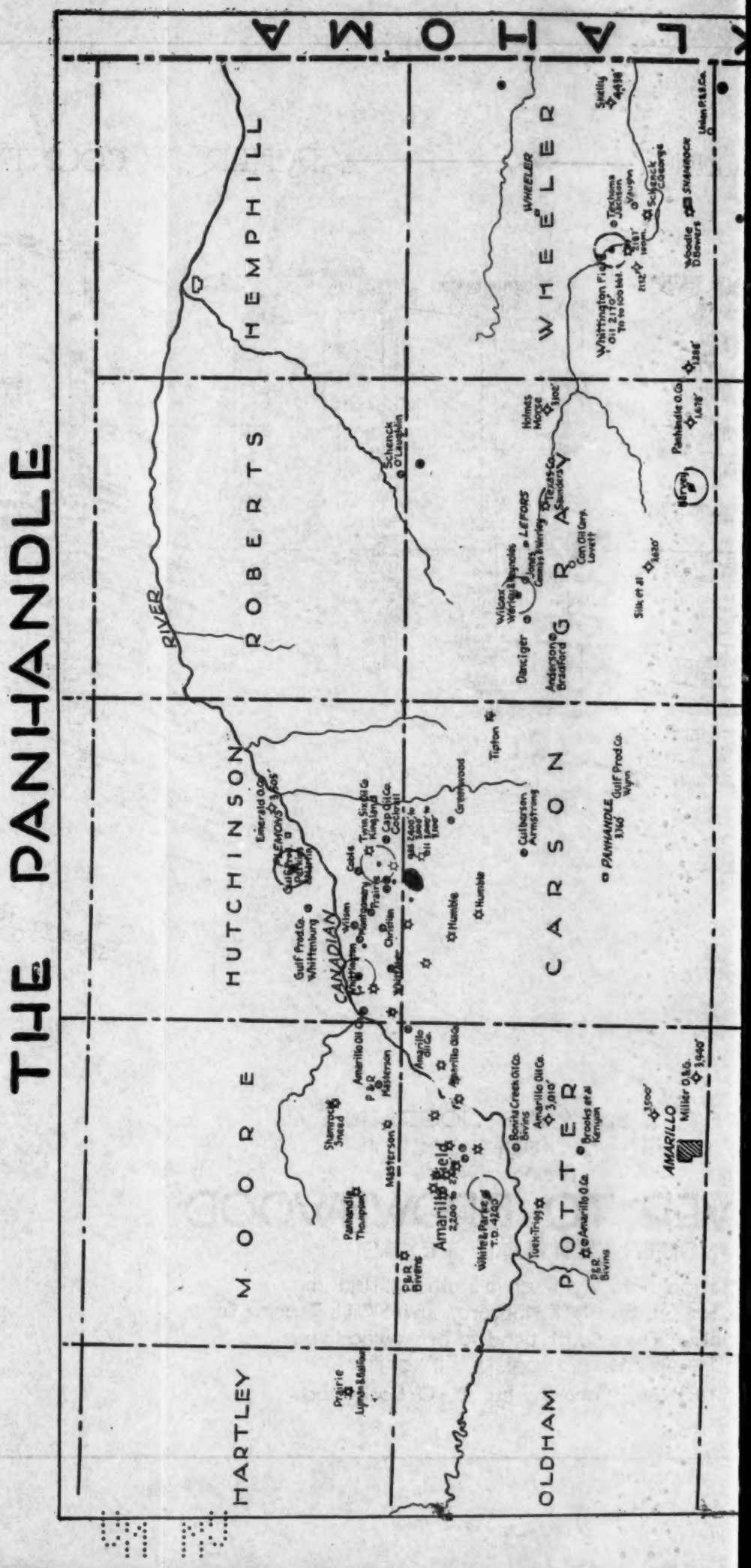
Comparison of Results of Field Work in North and Central Texas Fields, Including Panhandle and West Texas by Years 1922-1925

Year	Wells Comp.	Oil Wells	Initial Prod.	Dry Holes	Gas Wells	Av. Initial Prod. of Oil Wells	Av. Initial Prod. of all Wells	Drilled
1922	2,125	1,463	245,108	600	62	167.3		115.3
1923	2,666	1,724	185,826	861	81	107.8		69.7
1924	2,814	1,692	227,209	1,047	75	134.3		80.7
6 mo. 1925	1,737	1,406	160,279	286	45	114.0	--	92.2

North and Central Texas Production by Month from January, 1922, to June, 1925, Including Panhandle and West Texas

1922—		1924—	
January	4,679,801	January	3,359,236
February	3,637,044	February	3,280,251
March	4,303,204	March	3,595,406
April	3,474,234	April	3,767,470
May	3,682,422	May	3,983,212
June	3,957,955	June	3,787,810
July	4,962,769	July	3,840,869
August	3,920,453	August	3,929,027
September	4,731,944	September	3,577,980
October	3,557,426	October	3,746,847
November	4,427,210	November	3,844,740
December	3,471,195	December	3,912,045
Total, 1922	48,805,657	Total, 1924	44,624,893
Daily average	133,714	Daily average	121,926
1923—			
January	4,311,280		
February	3,316,348		
March	4,175,196		
April	3,595,160		
May	3,823,304		
June	3,940,530	1925—	
July	4,778,155	January	3,987,809
August	3,496,879	February	3,789,184
September	3,227,690	March	4,346,355
October	3,990,448	April	4,346,970
November	3,178,420	May	4,652,449
December	3,209,660	June	4,807,770
Total, 1923	45,043,070	Total first 6 months	25,930.537
Daily average	123,405	Daily average	143,263

The tables show the daily average production for the first half of 1925 was 21,337 bbls. higher than the average for 1924; 19,858 bbls. higher than the average for 1923, and 9,549 bbls higher than the average for 1922. The production for June, 1925, was higher than for any other month in the three and one-half years.



Comparison of Results of Field Work in North and Central Texas Fields, Including Panhandle and West Texas by Years 1922-1925

Year	Wells Comp.	Oil Wells	Initial Prod.	Dry Holes	Gas Wells	Av. Initial Prod. of Oil Wells	Av. Initial Prod. of all Wells Drilled
1922	2,125	1,463	245,108	600	62	167.3	115.3
1923	2,666	1,724	185,826	861	81	107.8	69.7
1924	2,814	1,692	227,209	1,047	75	134.3	80.7
6 mo. 1925	1,737	1,406	160,279	286	45	114.0	92.2

North and Central Texas Production by Month from January, 1922, to June, 1925, Including Panhandle and West Texas

1922—		1924—	
January	4,679,801	January	3,359,236
February	3,637,044	February	3,280,251
March	4,303,204	March	3,595,406
April	3,474,234	April	3,767,470
May	3,682,422	May	3,983,212
June	3,957,955	June	3,787,810
July	4,962,769	July	3,840,869
August	3,920,453	August	3,929,027
September	4,731,944	September	3,577,980
October	3,557,426	October	3,746,847
November	4,427,210	November	3,844,740
December	3,471,195	December	3,912,045
Total, 1922	48,805,657	Total, 1924	44,624,893
Daily average	133,714	Daily average	121,926
1923—			
January	4,311,280		
February	3,316,348		
March	4,175,196		
April	3,595,160		
May	3,823,304		
June	3,940,530		
July	4,778,155	1925—	
August	3,496,879	January	3,987,809
September	3,227,690	February	3,789,184
October	3,990,448	March	4,346,355
November	3,178,420	April	4,346,970
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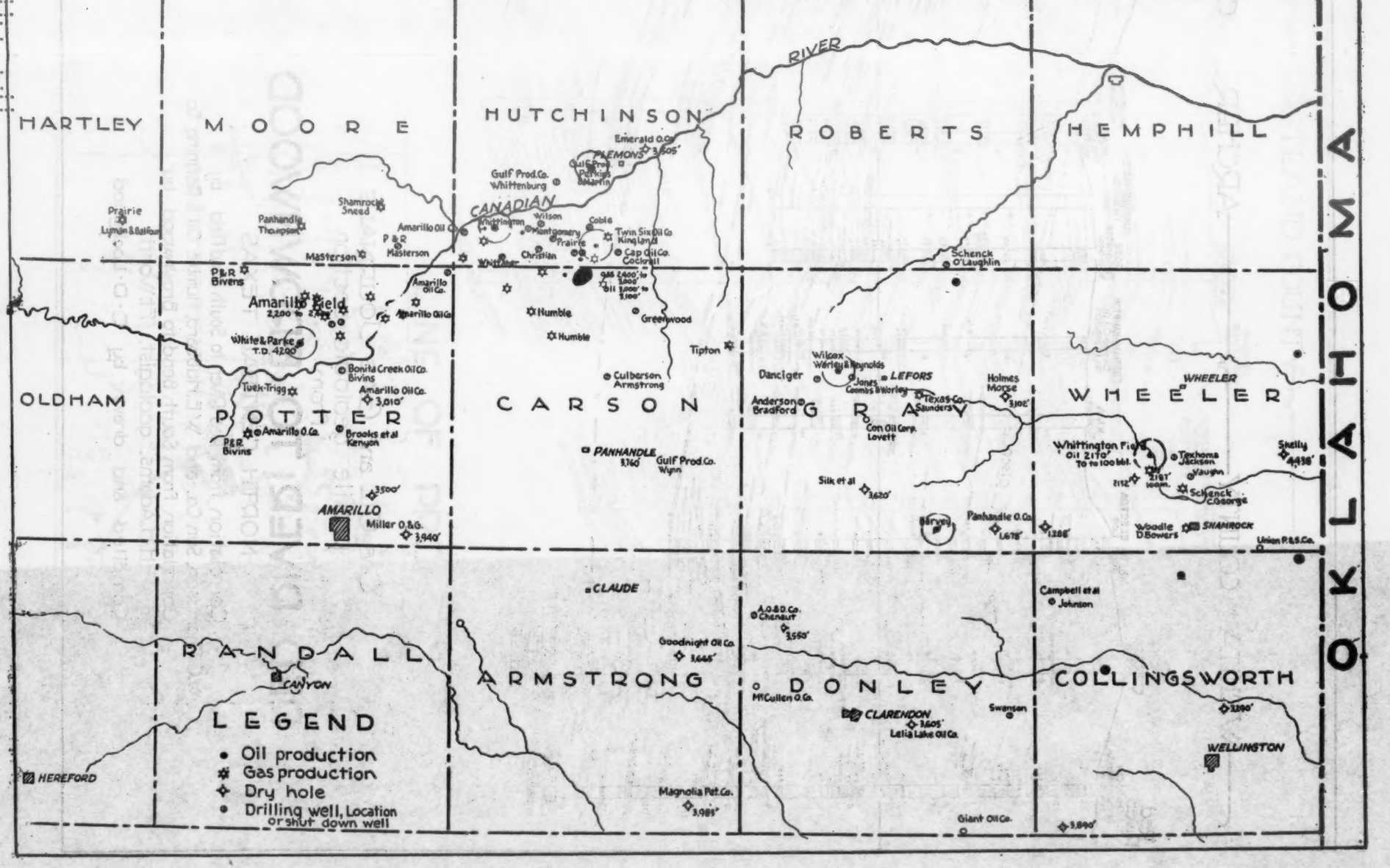
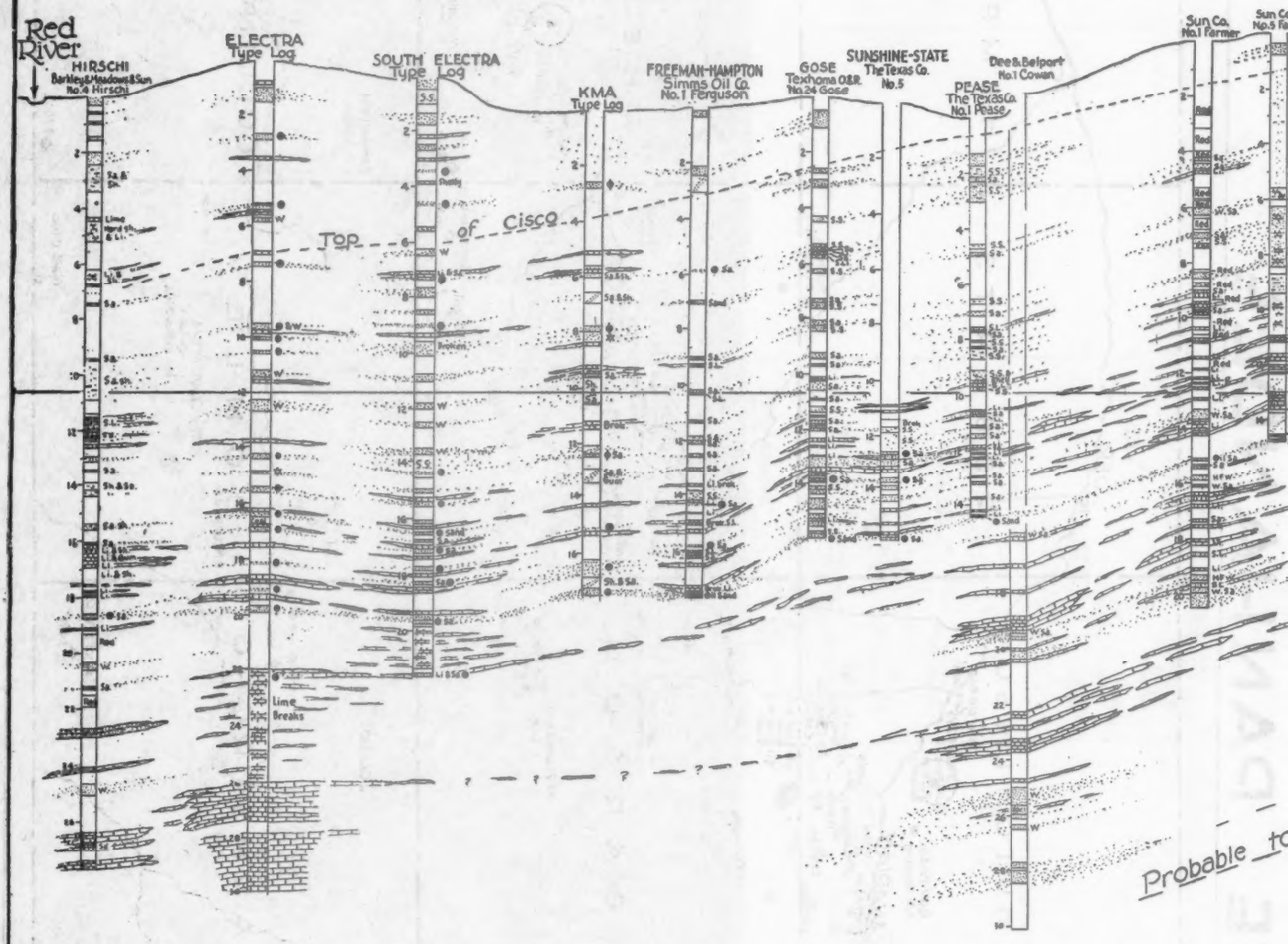

HARTLEY
MOORE
HUTCHINSON
ROBERTS
HEMPHILL
OKLAHOMA
RIVER
CANADIAN
OLDHAM
POTTER
CARSON
GRAY
WHEELER
RANDALL
ARMSTRONG
DONLEY
COLLINGSWORTH
Amarillo Field
2,200 to 2,4
White & Parker et al T.D. 4200
AMARILLO
Miller O.&G. 3,940'
Bonita Creek Oil Co. Bivins
Amarillo Oil Co. 3,010'
Brooks et al Kenyon
Tuck-Trigg
P&R Bivins
Amarillo O.Co.
Masterson
Prairie
Lyman & Balfour
Panhandle Thompson
Shamrock Sneed
Gulf Prod.Co. Whittenburg
Emerald O.Co. 3,605'
PLEMONS
Gulf Prod. Co. Patrick Martin
Wilson
Coble
Twin Six Oil Co Kingland
Cap Oil Co. Cockrell
Montgomery Prairie
Christian
Gas 2400' to 3,000'
Oil 3,000' to 3,100'
Humble
Greenwood
Tipton
Culberson Armstrong
PANHANDLE 3,760
Gulf Prod.Co. Wynn
Schenck O'Laughlin
Danciger
Wilcox Wertz & Reynolds
Jones Combs & Worley
LEFORS
Texas Co. Saunders
Holmes Morse 3,102'
Anderson Bradford
Con Oil Corp. Lovett
Silk et al 3,620'
Whittington Field Oil 2,170' To to 100 bbl.
2181' wash.
2112'
Texhoma Jackson
Vaughn
Schenck Cosorge
Shelly 4,438'
Woodie D.Bowers
SHAMROCK
Union P.&S.Co.
Panhandle O.Co. 1,678'
1,288'
Bryson
CLAUDE
A.O.&D.Co. Chenault 3,550'
Goodnight Oil Co. 3,665'
McCullen O.Co.
Swenson
CLARENDON 3,605'
Lelia Lake Oil Co.
Campbell et al Johnson
3,290'
WELLINGTON
Magnolia Pet.Co. 3,985'
Giant Oil Co.
3,890'
CANYON
HEREFORD
LEGEND
Oil production
Gas production
Dry hole
Drilling well, Location or shut down well

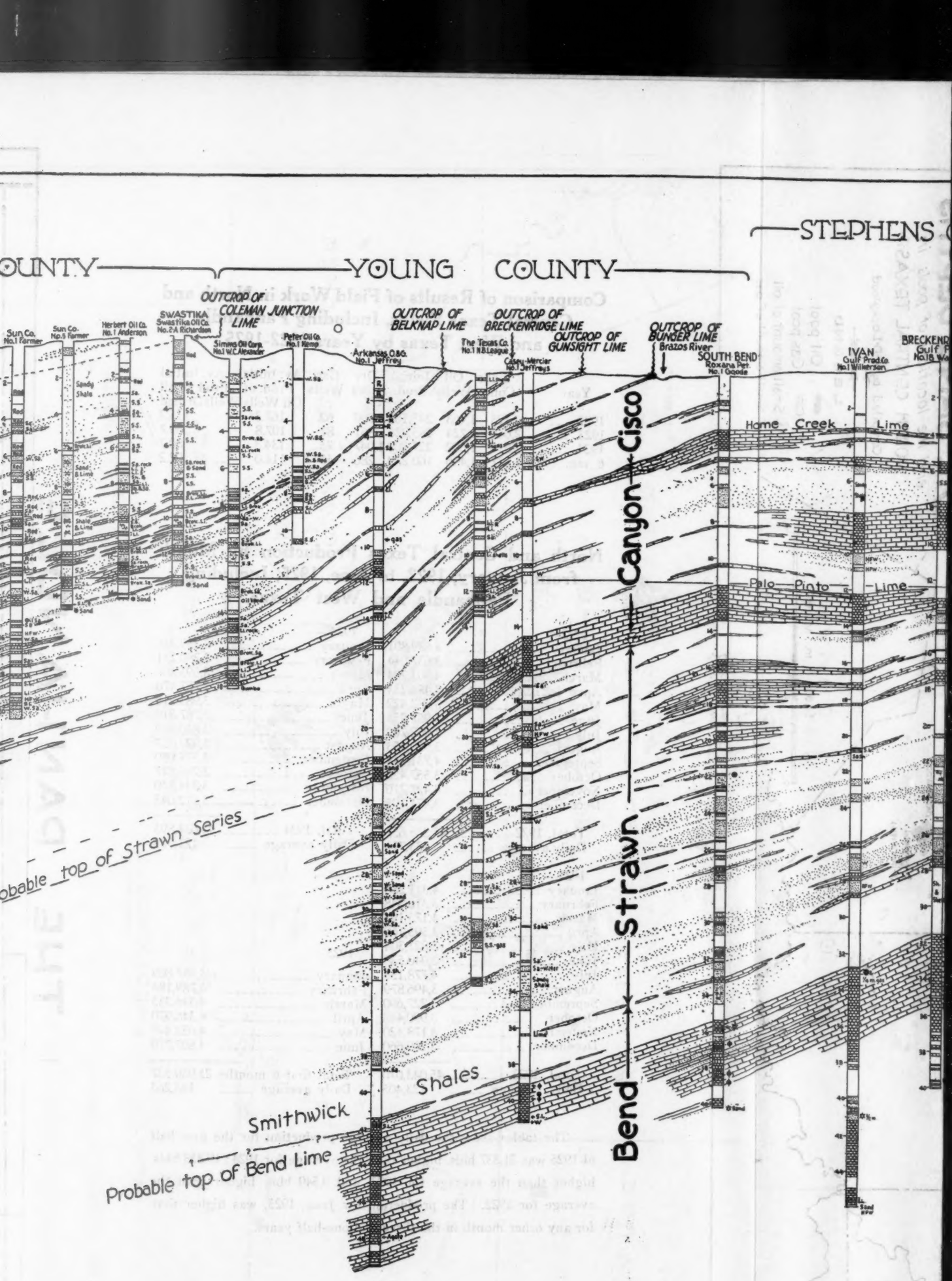


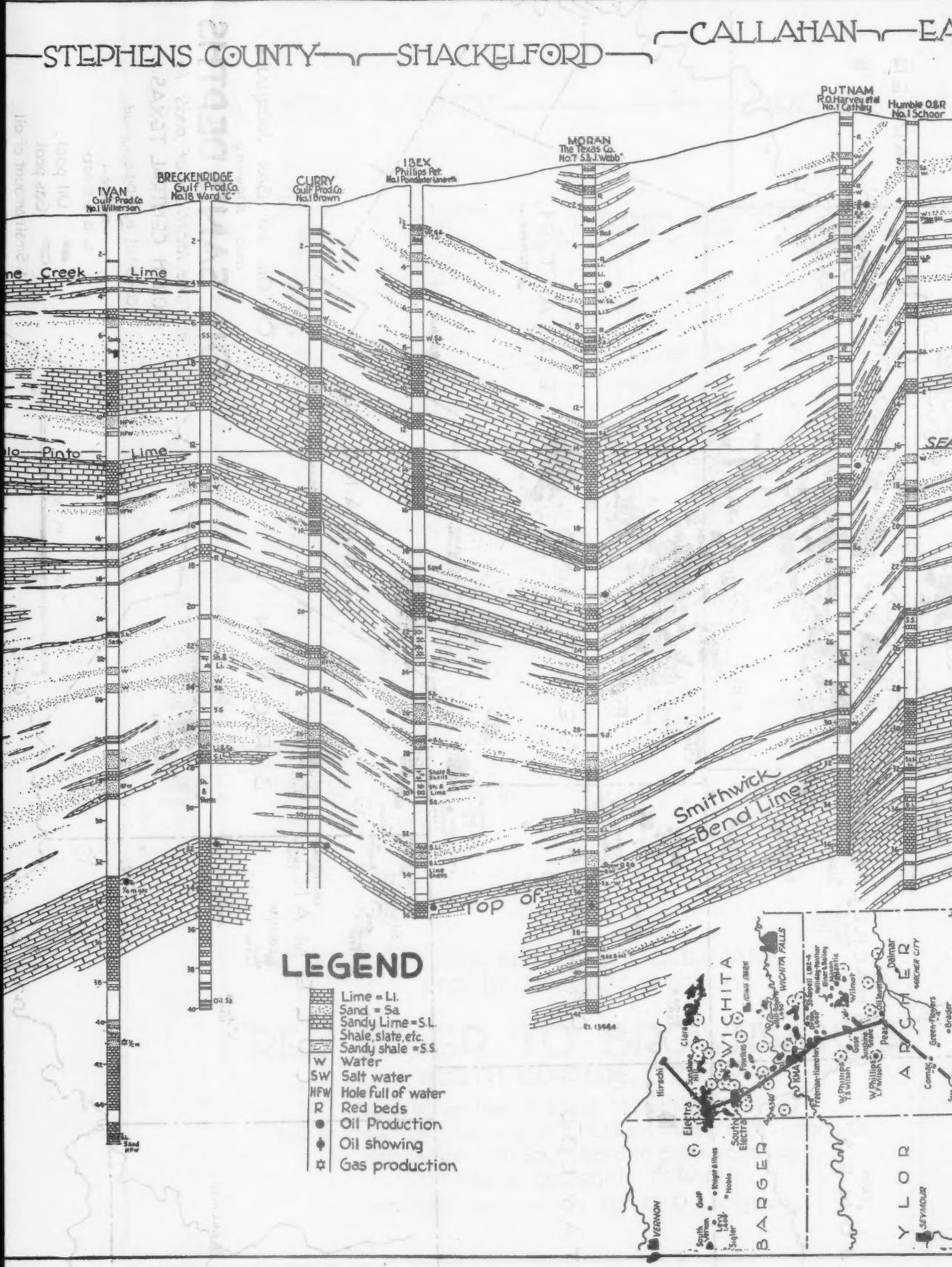
The OIL and GAS JOURNAL'S
profile geologic section
from

RED RIVER TO BROWNWOOD

NORTH CENTRAL TEXAS

Correlation from Red River to South Bend Field by
W.C. Thompson, Sun Co., and W.E. Hubbard, Humble Oil & Refining Co.
Correlation from South Bend to Brownwood by
H.H. Adams, geologist, Ft. Worth
Compiled and drawn by C·D·Lockwood


OUNTY
YOUNG COUNTY
STEPHENS
OUTCROP OF COLEMAN JUNCTION LIME
OUTCROP OF BELKNAP LIME
OUTCROP OF BRECKENRIDGE LIME
OUTCROP OF GUNSIGHT LIME
OUTCROP OF BUNGER LIME
Brazos River
SOUTH BEND
Roxana Pet No.1 Goode
IVAN
Gulf Prod.Co No.1 Willerson
Sun Co. No.1 Farmer
Sun Co. No.5 Farmer
Herbert Oil Co. No.1 Anderson
SWASTIKA
Swastika Oil Co. No.2-A Richardson
Simms Oil Corp. No.1 W.C.Alexander
Peter Oil Co. No.1 Kemp
Arkansas O.&G. No.1 Jeffrey
The Texas Co. No.1 N.B.League
Casey-Mercier No.1 Jeffreys
Home Creek Lime
Palo Pinto Lime
Cisco
Canyon
Strawn
Bend
Shales
Smithwick
Probable top of Bend Lime
obable top of Strawn Series


STEPHENS COUNTY
SHACKELFORD
CALLAHAN
EA
IVAN
Gulf Prod.Co.
No.1 Wilkerson
BRECKENRIDGE
Gulf Prod.Co.
No.18 Ward "C"
CURRY
Gulf Prod.Co.
No.1 Brown
IBEX
Phillips Pet.
No.1 Poindexter-Landreth
MORAN
The Texas Co.
No.7 S.& J.Webb
PUTNAM
R.O.Harvey et al
No.1 Cathey
Humble O&R
No.1 Schoor
Creek Lime
Pinto Lime
Smithwick
Bend Lime
Top of
LEGEND
Lime = Li.
Sand = Sa.
Sandy Lime = S.L.
Shale, slate, etc.
Sandy shale = S.S.
W Water
SW Salt water
HFW Hole full of water
R Red beds
Oil Production
Oil showing
Gas production
WICHITA
ARCHER
BARGER
YLOR
WICHITA FALLS
VERNON
SEYMOUR

EASTLAND COUNTY — B

Humble O&R No.1 Schoor

HILBURN H.V.Foster et al No.2 W.C.Hilburn

PIONEER North Star Oil Co. Webb-Hughes No.1

CROSS CUT J.W.Newton No.1 McMurry

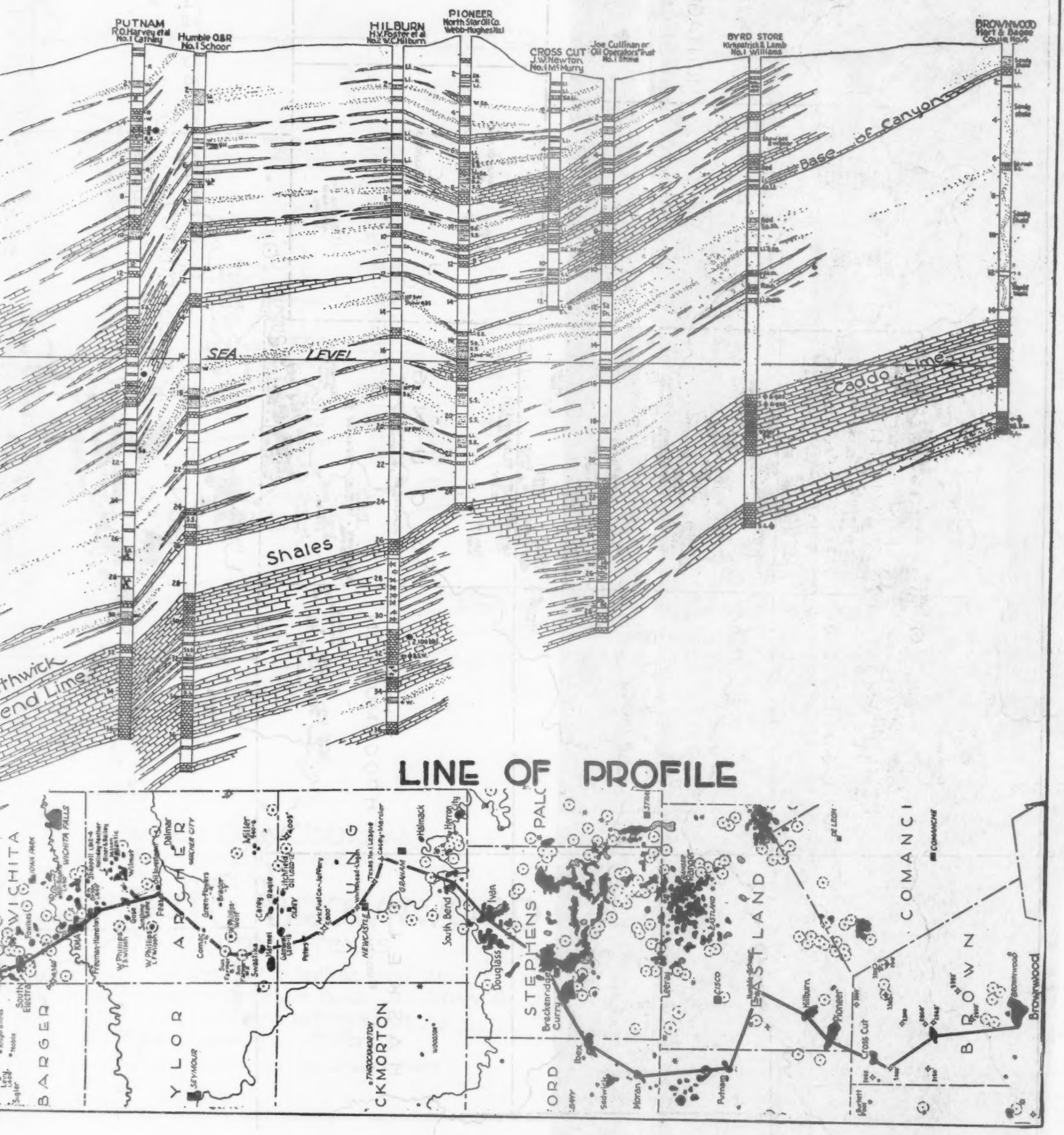
Joe Cullinan et al Oil Operators' Trust No.1 Stone

SEA LEVEL

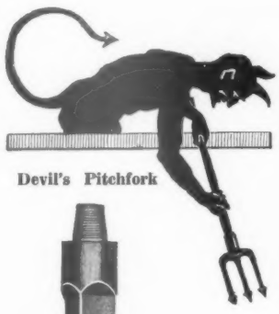
Shales

LINE OF PRO

CALLAHAN — EASTLAND COUNTY — BROWN COUNTY



LINE OF PROFILE


Devil's Pitchfork

NORTH CENTRAL TEXAS

Devil's Steel Hand (Cable Type)

has been good to us - in fact the whole world has

TROUBLES THAT WERE REAL!

Brown Welding & Machine Co.

Breckenridge, Texas

MANUFACTURERS OF FISHING TOOLS, INCLUDING DEVIL'S STEEL HAND, DEVIL'S PITCHFORK, BROWN'S ROD SOCKETS, ETC., ETC.
MAIN OFFICE AND FACTORY, BRECKENRIDGE, TEXAS
SALES AND RENTAL STORES:
WOODSON, TEXAS (Throckmorton County) TULSA, OKLA.
FULL LINE OF ACME FISHING TOOL CO. TOOLS AT EACH PLACE

NOTE—The next of our products to be put on the market will be the Brown Underreamer.

DEVIL'S STEEL HAND and PITCHFORK

NOTE—This underreamer has 3 cutters, cuts 250° of the circle, automatically takes up slack due to wear of cutters and body and is almost as rigid as a solid reamer. No more key-seated holes.

A Word of Appreciation

We want to take this opportunity to thank the contractors and operators of our section of Texas for their advice, co-operation, and patronage. It was because of all of these that we have been able to originate, manufacture, and place upon the market our line of fishing tools and we believe that you, also, take pride in knowing that these tools are in use all around the world.

We shall continue in close touch with you, combining our experience with yours, and our knowledge of mechanics with yours of operation. Together we have already greatly lessened the risk of drilling. In the future, with your continued advice, we promise you still other improved equipment.

Wildcatting the "Three Pastures" of the

By C. D. Lockwood

WICHITA FALLS, Tex., Aug. 17.—The great Waggoner ranch pastures in Wilbarger County, especially in that area between the South Vernon Field and the old Electra Field, known as the Vernon district, have been the stage for the greatest wildcatting campaign in the North Central Texas territory for several months. And now that more than two score of the hundred odd wells which were started as a result of this big campaign have been completed, it is interesting to note that every barrel of production which has been found since the Vernon Field reached its height, considering barrels per day and not the total output, has cost the industry close to $1,000.

In all of Wilbarger County outside of the Vernon Field proper, 77 wildcat operations in all stages from locations to drilling wells near the pay horizon are still carried on the scouting books, nearly all of which are on the Waggoner ranch. Fifteen wells have been brought in as producers, 12 of which are producing oil now, with a total output of approximately 700 bbls. a day. Since the wildcatting campaign started early in the year, 32 wells have been abandoned as dry, with total depths averaging a little more than 2,000 feet. Of these dusters, 28 were on the Waggoner pasture land, 23 were cable tool tests and 9 were rotaries.

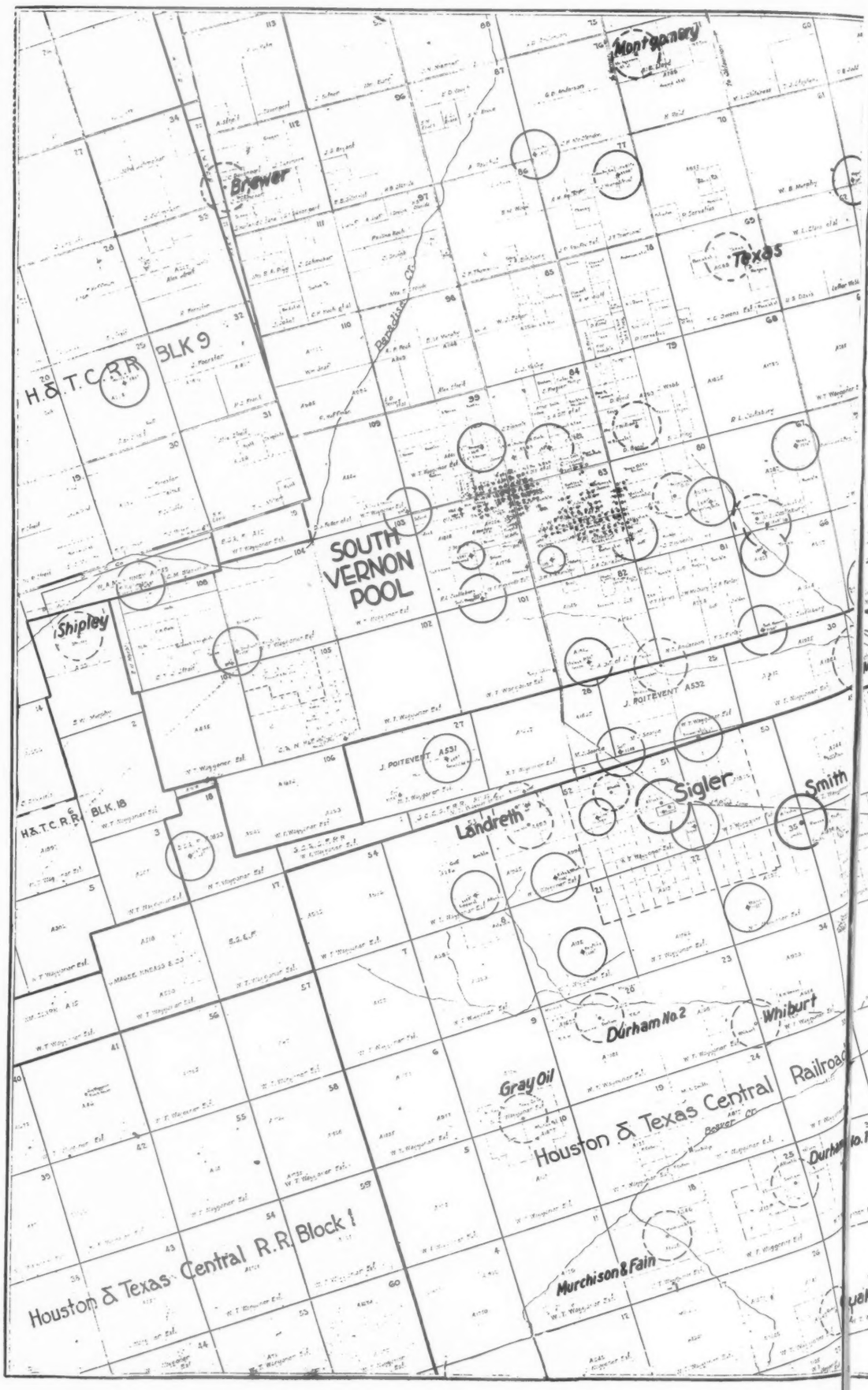
Estimating the cost of a cable tool hole in Wilbarger County as $25,000 for the purpose of statistics (some concerns operating there claim their average cost is lower than that, but additional expenses not usually included in cost estimates of a dry hole will probably bring the average to that figure) and the loss of a rotary hole as $15,000, the total cost of the failures in Wilbarger County, outside of the South Vernon Field, since the first of the year, is probably more than $700,0000, or a little more than $1,000 per barrel for the 700 bbls. of new production.

Best of the New Pools

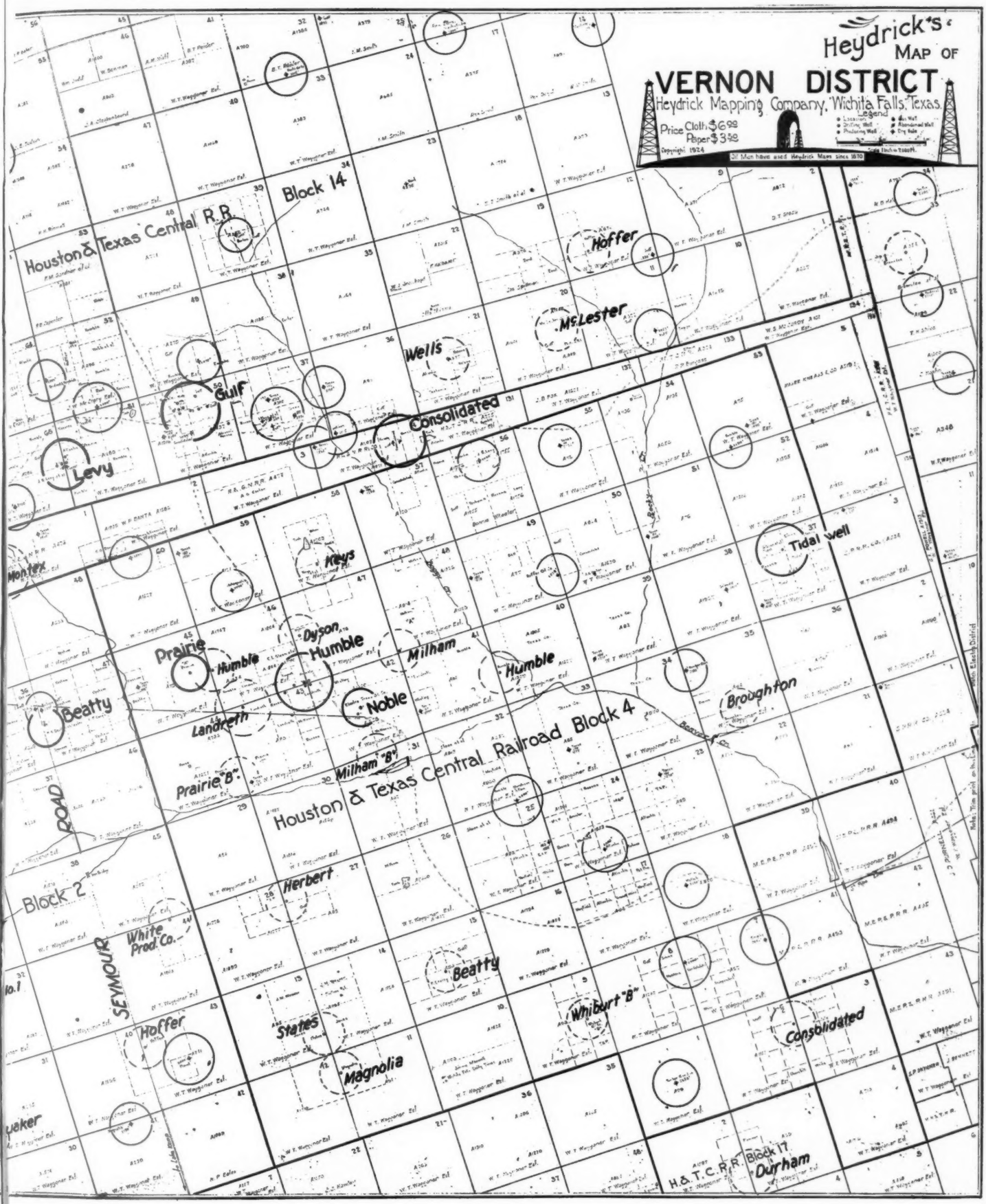
The best of the new pools is that opened up in April by the Gulf Production Co. in its No. 1-R, about 5 miles east of the South Vernon Field in Section 50, Block 14. This well originally produced 90 bbls. from sand at 1,788-93 feet and is now making 14 bbls. daily. The same company's No. 2-R, a location west, is producing from sand at 1,517 feet, pumping 60 bbls. of oil now and about an equal amount of water. A quarter of a mile west of the discovery well, the Humble Oil & Refining Co. brought in its No. 1 in the 1,300-foot sand and it is now the best well in Wilbarger County, outside of the South Vernon Field, producing daily about 135 bbls. A location east of this good well, Murchison & Fain recently found this same sand and the well was estimated good for 150 bbls., flowing by heads. It had broken sand at 1,280-93 feet, oil sand at 1,293-1,312 feet, and then went 2 feet into shale. From all indications, this may be a better well than the Humble producer, although as this is written it is not fully tested. There are four other wells drilling in this little pool, and probably three others are to be started soon by the Gulf Production Co., the Empire Gas & Fuel Co., and Murchison & Fain.

The next best area discovered as a result of the wildcatting campaign lies about 2 or 3 miles southeast of the Gulf-Humble Pool. It was opened by the Electra-Texas Oil Co. (Noble) with a well in sand at 2,265 feet, which is still producing 90 bbls. daily. Diagonally northwest across the quarter section from this producer, the Humble Oil & Refining Co. has an 80-bbl. producer at 1,870 feet, which it bought from Dyson with the 60 acres on which it is located for $162,000 in cash and $20,000 in oil payments which were against the property and which the company assumed.

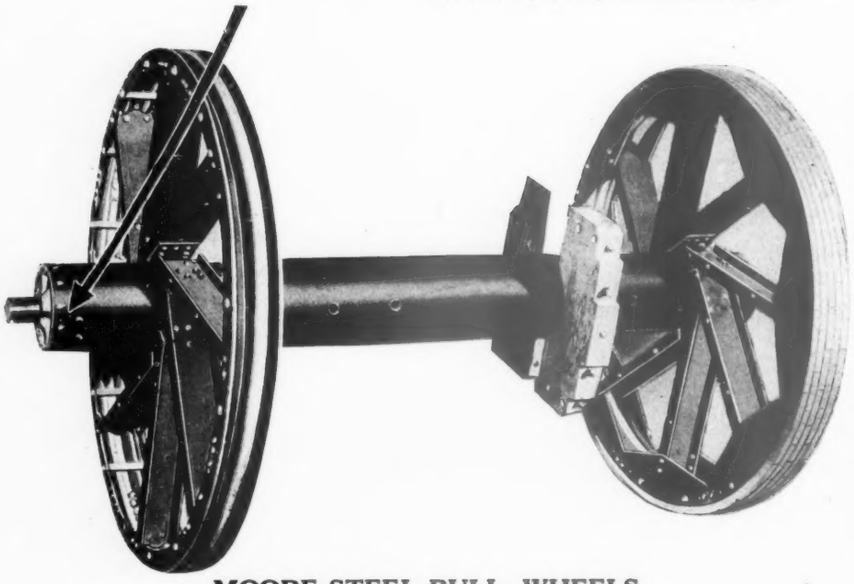
(Continued on Page 96)



Waggoner Ranch in Wilbarger County



Shaft ends heated and shrunk over the gudgeons before riveting, giving maximum strength.



MOORE STEEL BULL WHEELS 1

More Record Breaking Performances

by "the Derrick that defies disaster"

1

Over 10,000 Moore Steel Bull Wheels Sold and in Use

Moore steel bull wheels, like Moore steel derricks, enjoy the reputation of combining the greatest strength and durability with the lowest possible weight. The highest class materials together with correct design, improved through many years of practical field experience in their use, have made them practically unbreakable and everlasting. Year in and year out, they do their work practically without repair or maintenance expense.

The shaft, spokes, and tug rims, are of rolled steel, of rugged design. The shaft ends are heated and shrunk over the gudgeons, so as to give an absolutely tight fit, prior to being securely riveted in place. Thus ample strength is obtained to resist the heavy stresses imposed on these parts.

Made in two lengths, with either 16-inch or 18-inch pipe shaft. Furnished with one, two or three "dividers" or spool arms.

2

Light Pumping Derrick Successfully Pulls 4½" Frozen Casing

The photo shows the Anna Taylor No. 8 at Haynesville, Arkansas, where it was found necessary to pull 2,750 feet of 4½" casing. Stringing up with seven lines, after pulling for some time, the casing parted some distance down the hole. After considerable more pulling, the casing was started again, and the hole finally put in good shape. The picture was taken while the last joint was being pulled. This is a remarkable performance considering that the derrick was only a 67' pumper with light 3" legs, and not at all intended for such heavy work. Such records confirm a fact which is becoming quite generally recognized, namely, that the Moore Derrick has a factor of safety far in excess of its rated capacity and is by long odds the strongest, most dependable steel derrick made. The tubular leg sections have nearly double the carrying capacity of any other structural section suitable for derrick legs.

3

75,000,000 Feet of Gas Blew Stem and Jars Out of Hole

in this well at Big Lake, Texas. Straight up they went, striking the water table with such a terrific impact that one of the heavy beams was all crumpled up. (See photo No. 5). The drill stem and jars landed in the slush pit, a sorry looking pair! See photo No. 4). The well blew for about 48 hours. If you'd been there when it happened you would have thought the explosion bad enough to wreck a battleship. But "when the smoke cleared" the Moore Derrick was still standing. If it hadn't been for the drilling line getting itself all tangled up around the top of the derrick, you'd never have guessed that anything unusual had happened to it.

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Tulsa, Okla.
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California Representatives—BUCK & STODDARD

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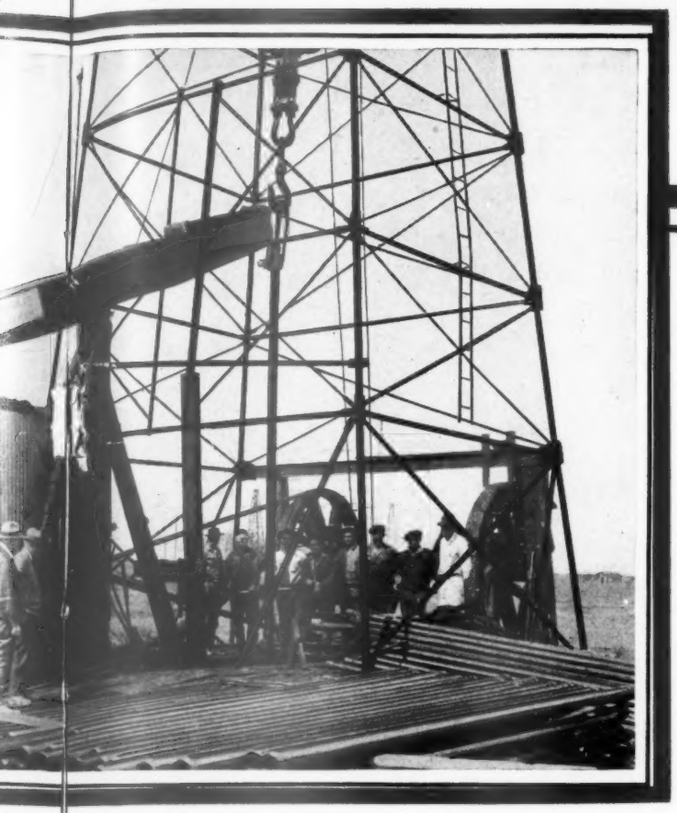
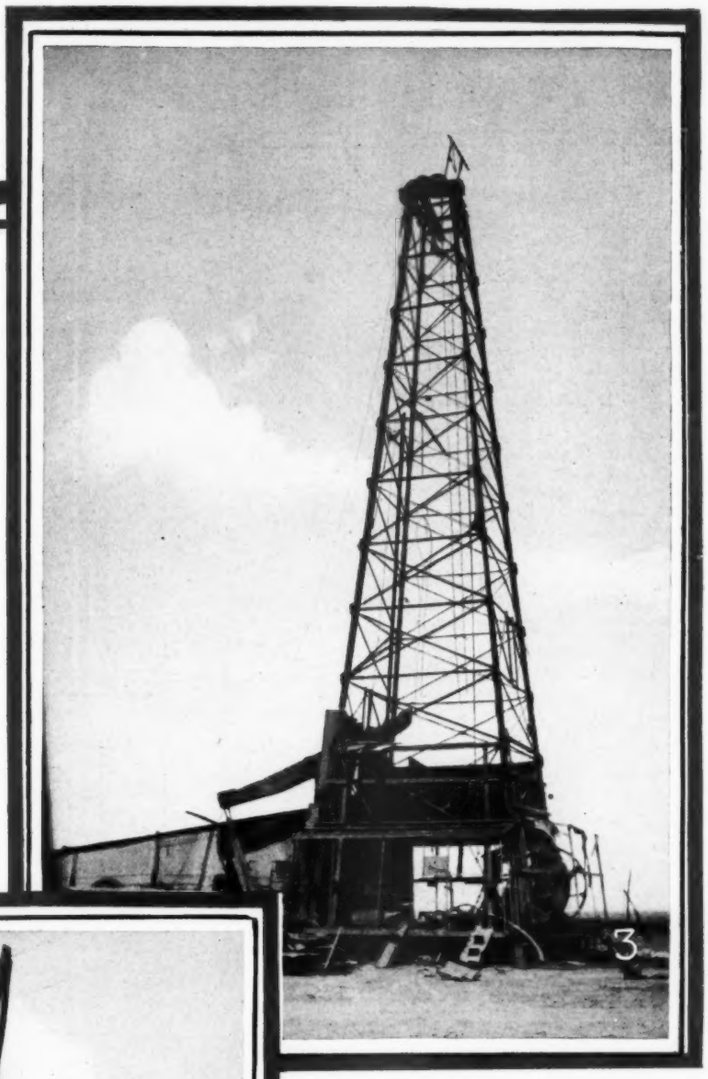
3354 E. Slauson Avenue;
Box 720 Arcade Station





4—This is how the drill stem and jars looked after they landed in the slush pit. (See story No. 3).

5—One of the heavy beams of the water table was struck by the drill stem and jars. This is the way it looked. (See story No. 3.)

MOORE
TUBULAR STEEL
DERRICKS

Nocona Field Still Remains an Enigma

Humphreys Interests Think Possibilities Worth Investigation but Some Other Geologists Pessimistic

By C. D. Lockwood

Wichita Falls, Tex., Aug. 15.—The Nocona Field in Montague County still remains more or less of an enigma even though three years have elapsed since The Texas Co. drilled in the first big gas well there, estimated close to 100,000,000 feet of gas. Just what possibilities the field offers the four big companies and few independents who hold all of the acreage is a question about which there are as many opinions as there are operators and geologists in the field.

The Humphreys interests apparently think that the potentialities are worth spending good money to investigate, as they have a couple of men in the field who devote most of their time to gathering samples of mud from all drilling wells and putting them through a chemical analysis. On the other hand, geologists of some of the other concerns heavily interested in the field are pessimistic over the outlook.

The field is not due to create any excitement for some time unless somebody accidently cracks in a far batter well containing much higher gravity oil than any found to date, with the exception of the Humphreys producer on the Hinton farm which is producing crude of 41 degrees. This is by far the best oil in the field, and even it has the drawback of coming from a lime formation. The well was completed about the middle of last month for 65 bbls., although it produced 82 bbls. the first day.

Most of the oil is of very low gravity, a representative being that of the Texhoma Oil & Refining Co. and Republic Oil Co.'s No. 1 J. W. Rowland, the farthest north producer in the field, which has just been completed for 40 bbls. of 20 degree gravity "asphalt" at 832-45 feet. The gravity improves slightly with the depth, apparently increasing about one degree with every 100 feet.

The low gravity of the oil, the small amount of the production in most wells, the high cost of drilling due to the 800-foot gas sand which necessitates cementing a string of 8-inch, and the broken character of the sand, combine to make the area seem unlikely to create any great disturbance in the industry.

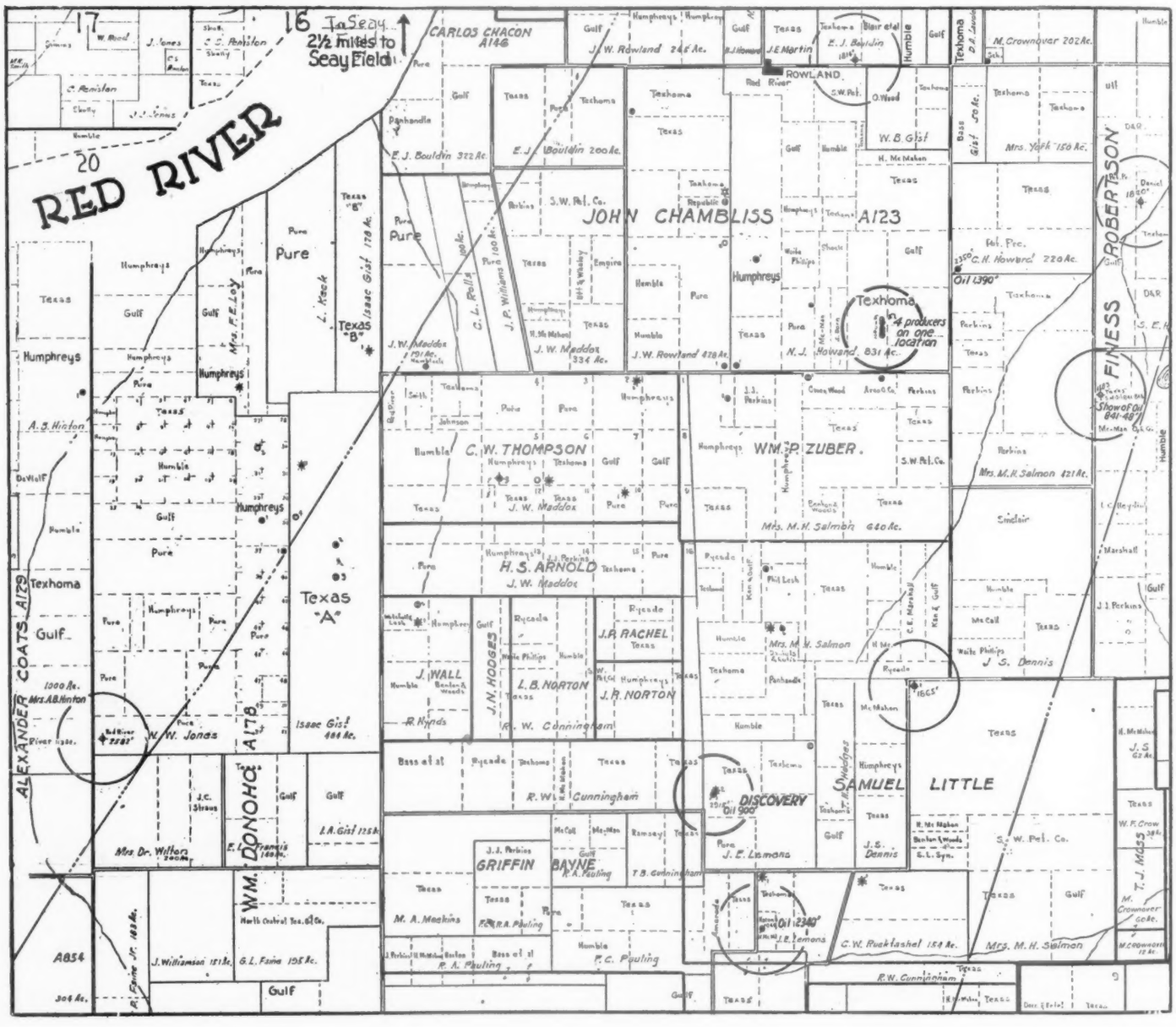
Some rather fancy prices were paid for acreage not long ago, the Texhoma Oil & Refining Co. having purchased the tract east of its Howard lease for $1,000 an acre. But the acreage is now all closely held and it probably will not change hands for some time. Development is going on slowly and will continue quietly until something worth while is uncovered or until the field is definitely condemned.

The area containing gas and oil wells is more than 4 miles in diameter now. The well that many persons regard as the discovery was drilled in 1919 by the Nocona Oil & Gas Co., south of the well marked on the accompanying map as the discovery well. While it had a good showing of oil at approximately 2,300 feet, the sand contained much water and the hole was carried on down to 2,552 feet and abandoned.

The Texas Co. drilled its No. 1 Lemons in 1922, as mentioned before, and encountered gas a little below 700 feet. A

(Continued on Page 96)

THE NOCONA FIELD, MONTAGUE COUNTY



IF YOU COULDN'T GET PROPERTY PROTECTION YOU WOULDN'T BUY PROPERTY.
YOU CAN'T BUY BETTER DERRICK INSURANCE THAN NATIONAL TURNBUCKLE DERRICKS

Think of the enormous amount of money that oil operators waste every year on inferior derricks . . . . derricks that not only prove a total loss in themselves but that, in many cases, actually mean the ruination of thousands of feet of valuable "hole."

Then remember that NATIONAL TURNBUCKLE DERRICKS embody a principle of design and construction formulated by three of the oil country's foremost rig builders. Know, too, that National Turnbuckle Derricks are readily portable. This means that their economy is multiplied by the number of wells on which they are used. Finally, investigate the reason why so many of the leading producers specify them over and over again.

NATIONAL TURNBUCKLE DERRICK CO.
413 Wright Bldg. Tulsa, Oklahoma

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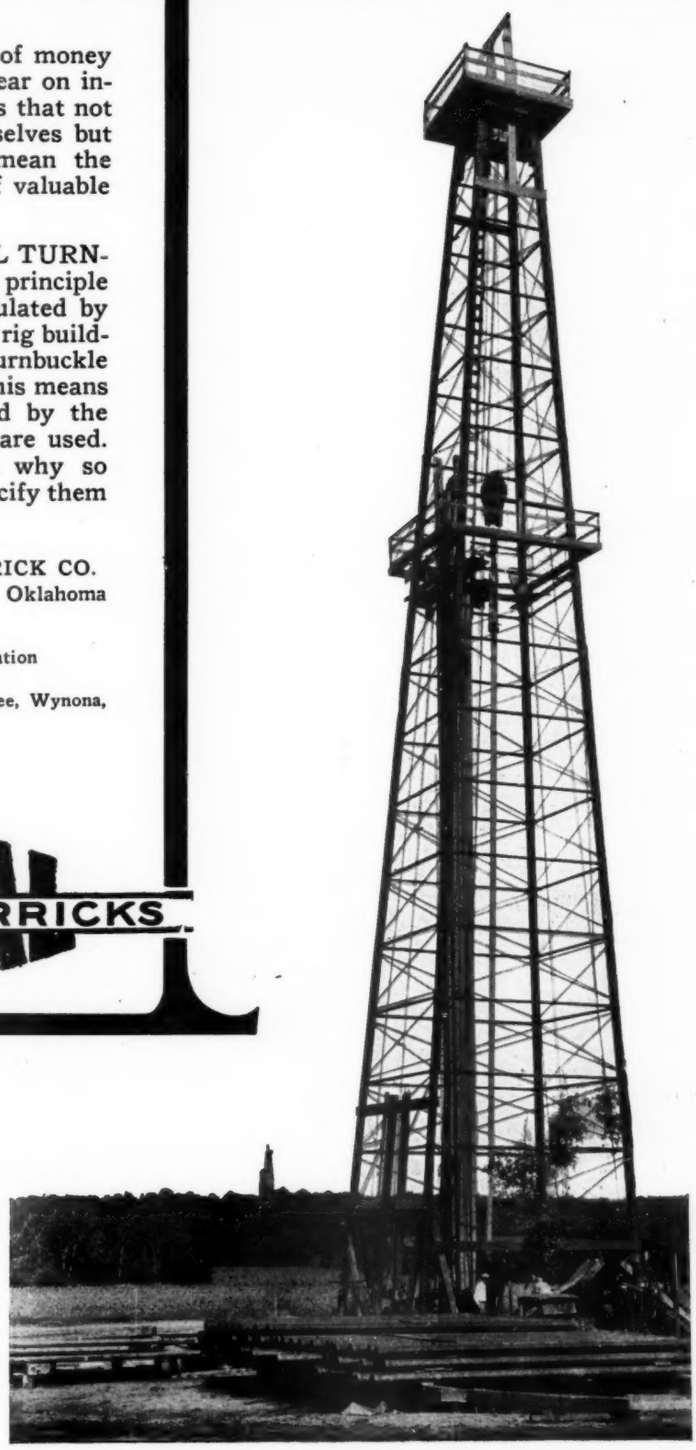
Osage Rig, Reel & Lumber Association
Yards at:
Burbank, Shidler, Lyman, Davenport, Pawnee, Wynona, Garber, and Wetumka, Okla.

Mahan, McCarty & Besse,
Contract Rig Builders

NATIONAL TURNBUCKLE DERRICKS



The particular National Turnbuckle Derrick illustrated at the right is in use at Davenport, Oklahoma, and about which the drilling contractor says: "It is the strongest derrick I was ever on." We will supply full information promptly on request.

RATE READJUSTMENT ORDERED ON PETROLEUM

HOUSTON, Tex., Aug. 18.—The Interstate Commerce Commission has ordered a readjustment of rates on petroleum from Oklahoma, Kansas and Arkansas points to Texas Gulf ports, effective October 8. The new schedules will place the Texas ports on a parity with New Orleans.

The Louisiana state and city officials and Chambers of Commerce are preparing to oppose the new rates, and, it is said, will appeal to the courts for an injunction. Representatives of 15 oil companies met here and formulated plans to seek the assistance of Oklahoma, Kansas and Arkansas shippers in the predicted contest to maintain rates.

The advantage of a shorter haul, hence less wear and tear on privately owned equipment, increased trips per month for cars and less transferring are the points set forth in favor of the Texas ports.

Oil companies are interested in the rate question, being among the largest shippers from the Mid-Continent and Arkansas districts to the Gulf ports. F. C. Clark, traffic manager of the Crown Central Petroleum Corp., Houston, was appointed chairman of a committee, which will contest for the new rates to Texas ports.

The rate from the Big Lake district to the Texas coast is 19 cents a barrel. The Orient gets 7 cents from Big Lake to San Angelo and the Santa Fe 12 cents from San Angelo to Houston and Texas City. Nearly 75 cars daily are being shipped by rail. The Humble Pipe Line Co. runs an average of 20,000 bbls. daily through its line. The line from Comyn, Comanche County to Hearne is being looped, which will give it a capacity of 50,000 bbls. daily. The company can pump 100,000 bbls. daily from Hearne south to the coast.

TEXAS ASPHALT ROCK FOR ROADS IN MEXICO

An inspection of the asphalt rock deposit of the Uvalde Rock Asphalt Co., at Cline, Tex., is being made by Charles M. Upham, who was recently employed by the Mexican Government as consulting engineer in its program for highway construction.

The use of rock asphalt for surfacing the highway which the Mexican Government has awarded the contract to build from Mexico City to Nuevo Laredo, on the Rio Grande border, is under consideration. Mr. Upham is State highway engineer of North Carolina and a director of the American Highway Research Board.

The asphalt rock deposit of the Uvalde Rock Asphalt Co. covers 7,500 acres and contains sufficient material to top 250,000 miles of highway, according to Jake Doyle, general manager of the company.

UNIVERSITY OF TEXAS PROUD OF GEOLOGISTS

AUSTIN, Tex., Aug. 15.—It is stated by Dr. E. H. Sellards, associate director of the Bureau of Economic Geology and Technology, that the National Research Council has recently compiled a list of men working in what has come to be known as subsurface geology.

This list contains 60 names of these workers employed in the United States. In checking up the list Dr. Sellards finds that 11 of the 60, almost one-fifth of all those in the United States, received their training in whole or in part in the laboratory of the Bureau of Economic Geology of the University of Texas.

"Most of those going out from this laboratory have remained within the State," Dr. Sellards continued, "and while it is discouraging to lose our workers, it is at least worthwhile to know that we are supplying trained men in one of the State's important industries."

FREAK PRODUCERS IN THE BLACK LIME COUNTRY OF CENTRAL TEXAS

By George R. Kelley

FORT WORTH, Tex., Aug 18.—Practically every oil field has its freak wells, and North Central Texas is no exception in this respect. In fact the territory seems to be especially blessed, or maybe it's cursed, with this peculiarity.

Particularly is this true as regards the black lime country, and the characteristics of the producing formation may be responsible for the abundance of these oil country freaks that are found in North Texas. In scores of instances big producers have been offset by dry holes and vice versa—sure shots have produced only huge failures and impossibilities have turned out splendid producers.

Possibly there is no more outstanding example of freakishness anywhere in the country than the No. 1 Dalton well of the Jack Dalton Oil Co., in Palo Pinto County. It has been said that this well, in addition to being a freak in nearly every other respect, actually got the Farmer's sand.

The Dalton well was completed during April of 1922, after having been under operation for something like a year. From the time the well was started it was accorded only a passive interest by the usual run of oil operators until it broke into production in the wee small hours of that April morning in 1922. If an oil scout happened to be passing that way, maybe he would drop a mile out of his way to give the well the once over—maybe he wouldn't.

The Famous Dalton Well

Doubtless few wells have been drilled under such trying hardships as was the Dalton well. The drilling fund was exhausted during the early weeks of the operation and after that it was carried down by sheer determination. A small interest was dispensed here and another there, for some small contribution. Even the grocer in the nearest town had a small interest in the well for having furnished food supplies to the drilling crew. Just a few days before the well came in Mark Dalton, one of the prime factors in the Jack Dalton Oil Co. and also a son of the fee owner, borrowed $100 from a friend—not to put in the well, but to support his family while he personally worked at the well. But the faith shown by the operators and the fact that the well came in a good producer are not the remarkable features.

The drillers were expecting a water sand. At 2 o'clock in the morning they detected a change in the formation. They went a few feet into the new formation, just how far has never yet been determined, and concluding they were flooded with water, started out of the hole. They never dreamed of oil, but the first thought in their minds was where they were going to get the casing to shut off the water.

Hardly had the tools been taken from the hole when it became very evident the hole was filling rapidly, but of course it was only water. Like a flash this supposed water shot to the top of the derrick.

"That's oil," shouted Mark Dalton as the derrick floor was flooded.

Sand was found about 3,963 feet. Flush production was 1,600 bbls. daily. Storage tanks were hastily set up and the Sinclair Pipe Line Co. laid a connection. Specific gravity of the oil was 48, and it consequently has always brought the top crude price.

One remarkable thing about the well is that it has produced far in excess of $2,000,000 worth of oil; has paid the land owner, R. S. Dalton estate, more than $250,000, and is still producing about 15 bbls. of oil daily. The well has 1,000 feet of open hole, and not a string of tools nor a bailer has been put in the well since it produced its first barrel of oil.

It Had All the Oil

The lone derrick stood at the foot of a rugged mountain range in western Palo Pinto County. Of course, a new field had been discovered, and there was the usual rush for leases. Dalton City, a mushroom town, sprung up nearby, and in a little while a dozen other holes were going down. Offset holes were drilled on all sides, and in every direction for a half mile around many, many wells were drilled, but today, after three and a half years, the Dalton No. 1 stands there a lone producer at the foot of the Palo Pinto Mountains.

Whether or not it can be called a freak, the Sinclair Oil & Gas Co.'s No. 1 Moran well, in the big bend of the Brazos River in Young County, is a very remarkable performer. This well was completed on March 17, 1923, with an initial production of 680 bbls. It has 12 feet of pay sand at 2,529 feet. It is still producing at the rate of an average of 370 bbls. per day.

The company has drilled four offsets to the well, all of which are failures. The latest of these, the No. 4 Moran, has just recently been drilled to a total depth of 4,560 feet and no oil yet. Not only are the offset wells dry, but there is no other production on the lease and adjoining leases are also dry.

In the spring of 1919 the Sinclair Co. drilled its No. 3 on the Manning farm, southeast of Caddo in Stephens County. At the depth at which production was expected there was not a trace of oil, not even a smell of gas. This was in the black lime and a shot of notro glycerin was administered. The response was a 6,000-bbl. gusher, which has produced over $1,000,000 worth of oil and paid the Manning estate more than $125,000. The well is producing 25 bbls. today, flowing. It is the only producer on the Manning farm, the No. 1 having been a gas well, and the No. 2 having been a junked hole just above the producing horizon.

TO EXTEND RAILROAD TO AMARILLO'S FIELD

The Chicago, Rock Island & Pacific Railway has asked the Interstate Commerce Commission for authority to extend its line 145 miles southward from Liberal, Kans., to Amarillo, Tex. It proposes to finance the line through a new company, all of whose stock, it is understood, will be owned by the Rock Island.

The Texas State Railroad Commission is expected to make no objection to the application. The extension would traverse Texas County, Oklahoma, and Hansford, Hutchinson, Carson and Potter Counties in Texas.

The railroad has received permission of the Interstate Commerce Commission to construct 2.4 miles of new line from Billings, its present terminus in Oklahoma, to Owens and through oil fields to Parker City, Okla.

NEW OFFICE BUILDING FOR REPUBLICS CORP.

HOUSTON, Tex., Aug. 15.—Work has started on the construction of a 20-story office building here designed to house the various subsidiaries of the Republics Corp., of which J. S. Cullinan is the controlling spirit. It will be known as the "Petroleum Building" and is officered by heads of the various companies. The directors of the building corporation are: T. P. Lee, Craig F. Cullinan, W. W. Moore, E. G. Floeter, W. N. Long, A. M. Johnson, H. J. Crookes, T. J. Arnold, L. L. Jordan, John Walsh and C. H. Johnson.

The Republics Corp. is the holding corporation for 15 associated companies, as follows: Republic Production Co., American Petroleum Co., Federal Petroleum Co., Papoose Oil Co., Pueblo Oil Co., Pennsylvania Petroleum Co., Petroleum Coal & Iron Co., Galena-Signal Oil Co., second preferred stock, Fidelities Securities Co., Petroleum Iron Works, Pennsylvania Car Co., Pennsylvania Shipyards Co., Pennsylvania Tank Line, Fidelity Trust Co. and Intracoastal Towing & Transportation Co. The banking quarters of the Fidelity Trust Co. will be on the ground floor. The location is at the corner of Texas Avenue and Austin Street.

COMPANIES COOPERATE TO PREVENT POLLUTION

HOUSTON, Tex., Aug. 15.—Oil companies using Texas City as a terminal port are cooperating with the Government to prevent pollution of the waters with waste oil. Texas City is across the bay from Galveston, a distance of 10 miles. It is on the mainland. Galveston is on an island in the Gulf.

The Humble Oil & Refining Co. has excavated a large reservoir into which bilges of tankers which come into port with water as ballast is pumped. Other companies also pump the bilge into this tank. While tankers are being loaded the scuppers are kept closed so that crude spilled on the decks can be salvaged instead of running off into the slip. Extreme care is used by workmen in coupling and uncoupling hose and connections.

A number of the tankers loading for the Humble Oil & Refining Co. have been equipped with separators, which separates the oil from the bilge water as it is being pumped to the reservoir.

Nearly 3,500,000 bbls. of crude were handled at the Texas City port during July.

All the beaches on the Atlantic Coast from Atlantic City south and those on the Texas Coast on the Gulf of Mexico have complained that crude washed overboard and floating to shore is destroying the bathing. A regular procession of tankers ply through the Gulf and along the Atlantic shore. They are transporting crude from Mexico, Central America, the Gulf Coast and from California through the Panama Canal. Captains are charged with being careless in pumping bilge water tainted with crude overboard. The waste oil eventually floats to the coast and pollutes the beaches.

WHO KNOWS THE LIFE STORY OF JOHN HINES?

HOUSTON, Tex., Aug. 17.—Two wills of John Hines, who died here May 5 last, have been filed for probate in the courts of Harris County. Each names a different administrator and each specifies that a search be made for missing relatives. Hines was a pioneer tank builder and was over 75 years old when he died. The body was buried here. He left an estate estimated at $6,000.

The first will specifies that a two-year search be made for two children of the decedent. If they are not found within that time the estate is to go to A. M. Johnson, a vice president and general manager of the Petroleum Iron Works in the Southwest, with Houston headquarters.

The second will names Joseph Connelly, of Pittsburgh, Pa., as administrator and provides that a diligent one-year search be made for Margaret Hines, a sister. The instrument states she was last seen by the deceased in West Virginia about 50 years ago. In case she is not found the estate goes to Connelly.

Hines helped erect tanks in the old Pennsylvania fields, through West Virginia, Ohio, Indiana, Oklahoma and finally located in the Coastal region. He was employed by the Petroleum Iron Works for several years before his death on easy assignments. During all these years men associated with him in Pittsburg, Washington, Pa., and the Bradford fields, and later through the West and down into Texas, learned very little concerning himself or his family ties.

It is known that a sister entered a convent as a nun and was located in Baltimore for many years, but the name of the sisterhood to which she belonged is not known. Any person having any information concerning the deceased is asked to send it to the Gulf Coast Bureau of The Oil and Gas Journal.

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Believe in Future of Greater Ranger

Eastland and Stephens Counties Thought to Have True Sands Below Lime From Which Production Has Come

By George R. Kelley

FORT WORTH, Tex., Aug. 17.—There is one event in the history of oil field development in North Central Texas that will always stand out as important in the history of petroleum in this country. This is the discovery of the Ranger Field, which ushered in one of the most stirring and eventful periods of oil field development and one of the most sensational oil booms any section of this contry has ever seen.

Generally speaking, Ranger does not refer to any one pool, but includes all that vast deep lime producing area in North Central Texas, which comprises principally Eastland and Stephens Counties. Roughly speaking, this great field covers an area 100 miles north and south and 25 miles east and west, or 2,500 square miles. Within its bounds falls the Ranger Pool proper, Desdemona, which prior to the discovery of oil was somewhat generally known as Hogtown; Breckenridge, Caddo, Pioneer, Necessity, Gunsite, Ivan and probably a dozen pools of lesser importance.

Ranger brought its big crop of fortunes, many of which were quickly squandered in the mad scramble peculiar to the times, and it also brought its quota of disappointments. In this respect it is not unlike many another oil boom this country has witnessed. Prior to the discovery of oil in the Ranger country, the people of Eastland and Stephens Counties lived the quiet, simple life of the substantial farming class, and even at that it was never a banner farming country. The population was of that sturdy western type, ever striving for better things, taking fortune calmly and meeting disappointment with a smile.

But oil set the country wild. Actually, fortunes were made over night and families who had never known anything but moderate circumstances at the best had riches thrust upon them. Little farms that year after year had yielded only a living for their owners and that originally cost only a few dollars per acre, were leased for many times the original cost of the land. They were sub-leased and sub-leased again until they yielded many hundred fold.

Discovered Opportunely

The country has probably never been as oil mad as it was during the early days at Ranger, for the discovery of oil there came at a very opportune time. It was just before America entered the World War, and before the field could be developed to any appreciable degree the war had brought a great drain on the world's oil supply and the demand had greatly increased. Crude prices began soaring and this, together with the fact that Ranger was the only big flush field in the country at the time, added fuel to the fire at Ranger. If the truth were known Ranger probably played a very important part in the war.

The discovery well at Ranger was drilled by the Texas & Pacific Coal Co., now the Texas Pacific Coal & Oil Co. It was brought in during October, 1917. The discovery was located on the McClesky farm 1½ miles south of the then little village of Ranger. But the country was scrambling for oil then as never before nor since, and it did not take long for the boom to get going.

The McClesky well was the fourth deep test the Texas Pacific Coal & Oil Co. had drilled in its efforts to discover oil in that section of Texas, and at the time there was a current rumor that W. K. Gordon, then in charge of the company's operations, was incurring the displeasure of some of his associates in his expensive search for oil. One story goes that Gordon had been given instructions to abandon the McClesky test but that on his own responsibility he elected to carry the test at least 100 feet deeper, which resulted in the discovery.

But if Gordon had incurred the displeasure of his associates, these were promptly forgotten during the fortune-making period for the company which immediately followed. The company had about 40,000 acres under lease in the general Ranger territory, upon which it had become obligated to drill four wells, therefore the McClesky was the final test.

The boom hit with such force and came with such speed that it was impossible for the Texas Pacific Coal & Oil Co. to meet all its drilling obligations. It was a physical impossibility for this or any other concern to drill all the wells that would soon be required of it. But fortunately for the company there was such a demand for leases that it was able to turn thousands of acres of its leases to the large companies for development and retain for itself, in most instances, a five-eights over riding royalty. Company production increased by leaps and bounds and Texas Pacific Coal & Oil Stock trade in at that time on the New York Curb, led the advance, reaching a high in 1919 of $195.

Reached Peak in One Year

Following the bringing in of the McClesky well, considerable work got under way in the fall and winter of 1917 and 1918. Activity began to move out in every direction from the discovery and by the spring of 1918 there were scores of wells drilling all over the north half of Eastland County and the south half of Stephens County, and it took only about one year for the Ranger Field proper to reach its peak of production of around 60,000 bbls. daily. This alone should give some idea of the speed with which operations were carried on when it is remembered that drilling there was very expensive and required more than the average to go below 3,200 feet for the pay level.

Early in 1918 development work spread rapidly, and during the first part of the year an occasional wildcat broke loose up in Stephens County. The business of leasing became very profitable and practically every available tract over these two counties was taken, principally by the larger companies. But leasing did not stop with Eastland and Shephens counties. Hundreds of thousands of acres were leased in Young, Jack, Palo Pinto, Erath and Comanche Counties, and in addition to this heavy expense of leasing, many of the major companies built large and expensive field quarters. The Sinclair Oil & Gas Co. and the Sun Oil Co. each spent many thousands of dollars in the town of Ranger; the Humble Oil & Refining Co. built a small town at Cisco; The Texas Co. laid out and built up the town of Parks in Stephens County, and other big concerns followed suit. Needless to say that such heavy expenditures necessitated heavy losses on the part of a few of the companies later when the big slump in oil came.

Desdemona and Breckenridge

In September of 1918 the Duke well at Desdemona came in, and this was soon followed by the bringing in of the Knowles well in the same district. Thus a boom was started at lowly Hogtown, the name of which was changed to Desdemona. The boom which came on at Desdemona was no less in intensity than was that at Ranger. Within a few months' time the field had developed its peak of production, around 40,000 bbls. daily.

And by this time considerable production had been developed up in Stephens County. Some fairly good wells had been found in the territory south of Breckenridge and near the town of Caddo. But development never hit Stephens County in boom proportions until the bringing in of the Carey well, southwest of Caddo. This was soon followed by the Breckenridge boom, where some of the largest producers ever drilled in the Ranger country were completed. Like the Ranger Pool proper, development in Stephens County was very rapid, and it required only about a year for the county to reach its peak of production of around 130,000 bbls. daily.

Pipe Line Construction

The rapidity with which Ranger, Desdemona and the Stephens County Fields were developed brought about an area of feverish pipe line construction to this new territory. There was no large pipe line anywhere in that section of the State. The first to lay a line was The Texas Co., an 8-inch line from Ranger to Fort Worth. This was followed by other major lines. The Gulf laid an 8-inch line to Fort Worth, as did the United Producers Pipe Line Co. Then the Humble and the Magnolia laid lines into the field and the Prairie and Sinclair laid trunk lines leading north into Oklahoma. The result is that the Ranger territory now is supplied with seven trunk lines, sufficient to carry probably 150,000 bbls. of crude daily from the field, if that much were being produced.

A Huge Turtle Back

Geographically the Ranger County is described as being a huge turtle back covering all of Eastland and Stephens Counties and parts of Comanche, Erath, Palo Pinto, Jack, Young and Shackelford Counties. Production is usually encountered in a hard lime formation from depths varying from around 3,200 feet to as deep as 3,800 feet in a few instances. The peculiar characteristics of the field are, large flush production accompanied usually by very heavy gas pressure, a very high gravity oil, light green in color and very rich in gasoline content as well as possessing valuable lubricating content, and a tendency of the wells to decline rapidly when once the flush is off.

The formation from which the production comes is known as the Bend lime and referred to in various localities as the Ranger Black lime, the Caddo lime, and the Breckenridge Gray lime. The specific gravity of the oil produced usually runs from 40 to 42 degrees and is said to resemble the Pennsylvania crude more nearly than any other oil produced outside the old eastern fields. The fact that the lime formation in which the oil is found is not an oil producing formation, has led to the contention that somewhere below this horizon a real producing oil sand will be encountered from which the oil has found its way into the lime crevices.

Believe True Sand Is There

It might seem foolish to talk of reviving a field that once produced over 200,000 bbls. of high gravity oil daily and which has declined to less than 25,000 bbls. daily, but geologists say positively that the Bend lime is not a producing formation, that the oil contained therein is only in crevices and that the real producing formation is somewhere below the level of the big lime formation, and on the strength of this many operators pin their faith to a big renewal in Ranger.

In the early days, and even up to the present time more or less, production—gusher production—was and is the order of the day. Few if any wells in the territory have been drilled deep enough to be called very much of a test of the formations lying below the lime. A well that did not produce in the lime was abandoned.

So there is really a posibility of further big production in the Ranger country. Some day when the demand for crude oil reaches the point where it will justify the expense of much deeper drilling, real deep production may be found in the Ranger district.

Several Shallower Sands

But all the production in the Ranger country is not from the deep lime. The Strawn sand overlies much of the district and is productive in small pools at various depths. There are several shallow or semi-shallow sands throughout the territory, most of which probably belong to the Strawn series.

A few miles south of the town of Ranger, in Eastland County, the Gray-Hightower Pool is producing from a true sand at around 1,200 feet. In the Olden district there is a 1,400-foot sand, and northwest of Ranger there is some sand production at from 1,700 to 1,900 feet.

In the South Bend, Bunger and Herron City districts of Young County there is also production from a formation, largely sand, at depths from 1,900 feet to 2,250 feet. Near Strawn, in southwestern Palo Pinto County, and in eastern Stephens County, there is also a sand production at 1,650 to 1,750 feet.

As late as the early part of this year the Ranger district staged a near revival when the Barney Carter Pool in southern Stephens County and just northwest of the town of Ranger was brought in. Pay was found in the lime formation at around 3,550 feet. Several 3,000-bbl. wells were brought in, but soon the pool began displaying the old Ranger characteristics. The wells declined very rapidly and soon leases that produced large wells began turning in wells with a flush of only a few hundred bbls. daily.

Right now there are prospects of a new lime pool in southwestern Palo Pinto County, 10 miles north of the town of Strawn, where the Pender Production Co. recently brought in a 350-bbls producer on the Rasmussen lease. A half dozen new wells have been started since the Rasmussen well came in at around 3,600 feet. The next few weeks will very likely tell the story of this prospective pool. One well, a diagonal offset to the discovery, is now down 2,000 feet, and another, three-quarters of a mile west, is down 1,600 feet.

The Pioneer Field in the southwestern part of Eastland County, is the shallowest lime producing area in the Ranger country. Production is found there at 2,450 feet in a sandy lime formation. Production is really coming from the top of the lime and there is considerable sand in the makeup of the formation. This pool was discovered late in 1921, and during the early half of the following year developed some large producers. One well in the heart of the pool produced a flush of about 7,000 bbls. daily. But this pool soon developed old Ranger characteristics and declined rapidly.

GERMANS USE MORE TRUCKS

Berlin advices state that the constant growth of the number of motor trucks and wagons and of aeroplanes is having a great effect on the demand for motor fuel. New power wagon and air routes are opened daily, and the German motor-car works are busy with orders. Hitherto the consumption of motor fuel in Germany has been greatly behind that of countries farther west.

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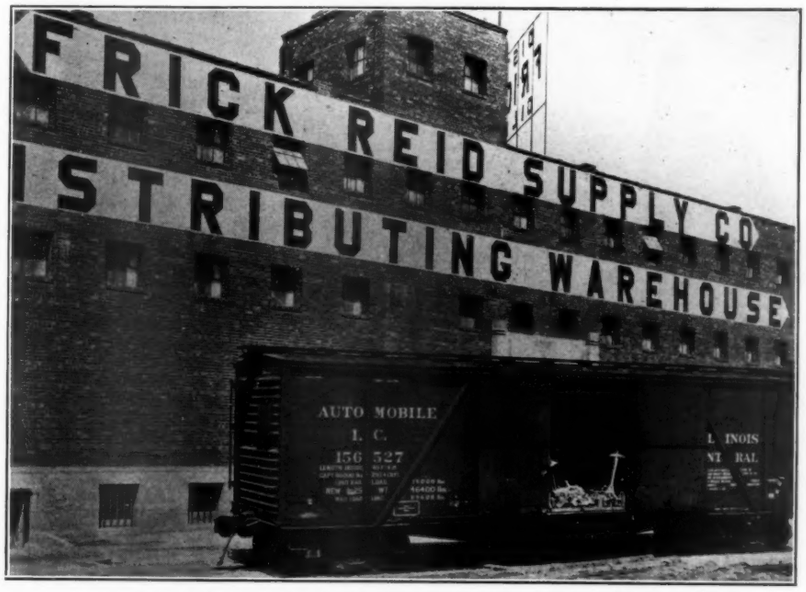

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HAS LOST NONE OF ITS ATTRACTIVENESS

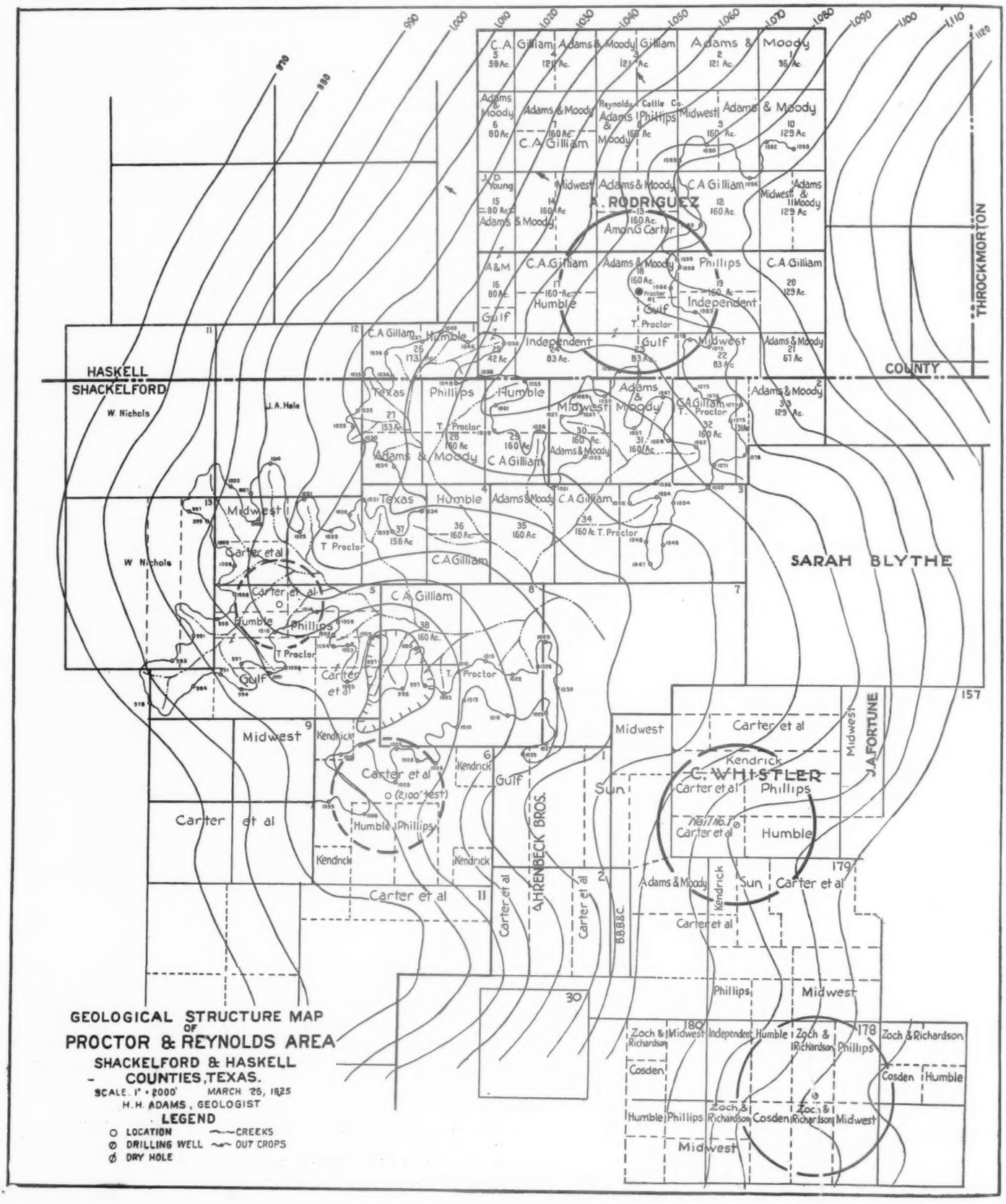
(Continued from Page 79)

Line Co., which had talked of the advisability of laying a gas line from the field to Denver and other Colorado cities.

By far the greater portion of the work done in the Panhandle has been on the big Four Six ranch of the S. B. Burnett estate in Carson County, and this ranch produces probably two-thirds of the entire oil output of the district. It is a rather singular incident that out of the three big ranches owned by the Burnett estate oil has been discovered in highly commercial quantities on two of them. One of these ranches is in the Electra Field of Wichita County. The Burnett properties in Wichita County are probably the second largest producing properties in the Electra district. The estate has another large ranch in King County, West Texas, which has not yet been explored for oil.

The Panhandle Field is entirely a play for the big company or the well financed independent. The expense of drilling operations is entirely too heavy for the so-called little man. The area consists, too, of very large tracts of land in the main, there being comparatively small farms included in the prospective oil and gas producing territory.

This fact may in a sense account for the comparatively slow development in the district. It is not at all unusual for the little man in the oil game to take the lead in the development of a wildcat territory, especially where it is possible for him to carry on his work at a moderate expense.



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THE 3 ZONES OF NORTH CENTRAL TEXAS

(Continued from Page 77)

of Shackelford County remains to be tested.

Sand Map and Cross Section

The accompanying map run as an insert between pages 82 and 83, showing the approximate average depths to the producing sands throughout the North Texas area, was compiled from the best maps available on the area and the locations of the individual wells and pools were scaled as accurately as possible, and the size of the colored dot represents the approximate size of the producing area. The Government base map was used, such alterations and additions having been made as were necessary to show the development up to date.

The sand depths shown on the map represent the average in the pool whose name is given at the top of the list, and in some cases were given in round numbers to agree with common usage as in those pools where the sand at 1,350 feet is generally known as the 1,300-foot sand.

Correlation in Its Infancy

Correlation of oil sands in this territory is practically in its infancy, and while there are some general agreements as to sands in different fields located a short distance from each other correlation over long distances has seldom been attempted. There are no blanket sands extending over the whole country as in central Oklahoma, which can be traced with reasonable accuracy for scores of miles. Names, therefore, are purely local and mean very little outside of the locality in which the sands occur, to which the names have been given.

For that reason, few names of producing horizons were lettered on the accompanying sand map. The Swastika sand might have been used in Archer and north Young counties, as the principal producing horizon in most of the Archer and Olney district fields is generally agreed to be the same. This is shown on the cross-section clearly.

Certain key horizons have been correlated more or less throughout this oil belt and through them it is possible to obtain a general idea of the lay of the formations. The geologists who correlated the accompanying profile geologic section from the Red River to Brownwood used these key horizons, and with data obtained from well cuttings, work of Government geologists and others have shown the general sub-surface conditions, even though many of the sands and limes, particularly in the north half of the area are so lenticular in nature, or lensed out, that they can not be correlated in some fields from one well to another.

One Sand Zone Defined

Most of the Archer, Young and Wichita oil comes from a sand zone which can be correlated from Olney up to Electra. At least, the lowest producing member in it seems to be the same throughout these fields and as the formations dip to the north, the producing sands gradually become shallower and shallower until in the South Electra and Electra districts, some oil is apparently coming from sands in the Permian formations.

Acknowledgments

That part of the cross-section from the Red River to the South Bend Field was correlated by W. C. Thompson of the Sun Co., Wichita Falls, and W. E. Hubbard, of the Humble Oil & Refining Co., Wichita Falls, to accompany a paper they prepared for the annual meeting of the American Association of Petroleum Geologists last March but which was not completed until some time after the meeting. The writer and The Oil and Gas Journal are indebted to the Association for its courtesy in permitting the publication of this correlation.

The south half of the section was prepared by H. H. Adams, consulting geologist and petroleum engineer of Fort Worth, an independent operator and director of the Moody-Gulf Gas Co. of Galveston, Tex. Mr. Adams was a consulting geologist at Ranger during the boom days and has been one of the few geologists who stayed with the country continuously and rode out the storm.

His part of the section shows how the Bend Lime rises to the south and how the formations dip to the west where the section runs out to Ibex and Moran and back east to the Humble Oil & Refining Co.'s Schoor gasser.

WILDCATTING THE "THREE PASTURES" AREA

(Continued from Page 84)

A mile and a quarter farther west, but possibly in the same area, the Prairie Oil & Gas Co. brought in its No. 1-A on July 10, and it is now making 70 bbls. from sand at 2,323-26 feet. There are 12 wells actually drilling in this district including these three producers, and six additional rigs are due to start up immediately.

Principal Lease Buyers

The Landreth Production Corp. and the Roxana Petroleum Corp. were the principal lease buyers in this field, paying $500 in cash and an equal amount in oil for the bulk of their acreage, although some prices paid were as high as $900 in cash and $900 in oil, and some contracts even carried a drilling agreement.

The oil in this pool is the highest gravity crude found in any of the "out side" wells in Wilbarger County, testing 36 degrees.

North of the Noble-Humble-Prairie area, the Consolidated Oil Co. (Knight & Hines) found a 70-bbl. well in their No. 1 in Section 4, about the first of May this year, but it dropped off rapidly and soon was down to 10 bbls. and then went off production entirely and was plugged. The sand was at 1,940-65 feet. Another well was drilled a location west of it to 2,150 feet but was dry.

Still farther east, in Section 37, Block 4, the Tidal Oil Co., had what looked like a 100-bbl. pumper a couple or three weeks ago when it was first drilled into the sand. When it was tubed, however, the gauge showed only 30 bbls. and several days later was practically down to nothing. It probably will be deepened.

The Old Sigler Area

The old Sigler area south of the South Vernon Field, where a couple of small wells were completed in 1920, starting a boom that very nearly wrecked that part of the county, has been receiving attention by the Atlantic Oil Producing Co. in particular. The two old wells are still making about 15 to 20 bbls. a day each and have been producing that amount for the past four years or more. The discovery was rated as a 100-bbl. well at 2,141-42 feet, although it looked a lot bigger than that at first, which caused all the excitement.

The Atlantic Oil Producing Co. was the biggest buyer in this field, having taken over considerable acreage with an agreement to drill four wells. Their first well, located just to the north of the Sigler producers, was a 15-bbl. pumper in the same sand.

About 1½ miles west of the Sigler group, Jess Garrison and others deepened an old Pyramid Oil Co. duster from about 2,000 feet to sand at 2,083-91 feet. Initial production was 70 bbls. and it is now making 52 bbls. after a couple of months. The Humble Oil & Refining Co. is drilling a well to the south of the Morrison producer. The Landreth Production Corp. bought the well and 60 acres from Morrison and associates for $125,000 and are now drilling two additional tests.

The Atlantic Oil Production Co. is also putting down a test about half way between the Sigler and Morrison wells. There is likewise a 2,200-foot duster about equidistant between these pools and the Atlantic test is located between it an another 2,248-foot failure to the north.

East of the Sigler district about a mile, M. L. V. Smith just recently completed a 20-bbl. pumper at 2,403-20 feet. The oil is 36 degrees gravity.

Another mile farther east, F. A. Beatty's No. 1 Waggoner, located in Section 47, Block 2, tested 70 bbls. at 1,952-60 feet and was deepened to sand at 2,399-2,408 feet, where it was good for 10 bbls. It was then further deepened to 2,720 feet but found nothing more and is being plugged gack to the 1,952-60-foot sand.

Another small pool, one of the first of the "outside" pools, was opened by Norton & Levy in March. It now has three producing wells, all of which together are producing 44 bbls. daily. Two dry holes have been drilled in it and the Gulf Production Co. is still drilling one well to the west of its 7-bbl. producer. The discovery well, Levy and others' No. 1, was initially good for 55 bbls. from sand at 1,417-34 feet, and is now making 22 bbls.

The Humble Oil & Refining Co. was the biggest purchaser when this pool was opened, having paid $500 in cash and $500 in oil for five 40-acre tracts.

The Trend of the Play

The accompanying map shows the trend of the play and how thoroughly the district is being combed for new pools. For years The Texas Co. has been punching holes all over the eastern part of Wilbarger County, and had come close to averaging one well to a section in some districts, but they were mostly shallow tests, stopping around 1,200 to 1,500 feet.

The discovery of 2,000-foot oil in the South Vernon Field stimulated this new campaign which has already resulted in 32 new dusters, and practically all of these wells and those that will be finished in the coming few months, are stopping above 2,500 feet. The chances are that some day in the future somebody will stumble on to still deeper oil, and then the whole process will have to be done over again.

For purposes of reference, scouts have divided this district into three parts. The "west pasture" is south of the Sigler Pool and west of the Seymour Road; the "south pasture" is east of the Seymour Road and south of the Noble Pool; and the "east pasture" is the remaining district east of the South Vernon Field. There are 13 drilling wells in the north end of the county outside of the Waggoner lands.

Four Pipe Lines

Four pipe lines serve the county, those of The Texas Co., the Humble Oil & Refining Co., the Sinclair Pipe Line Co., and the Waggoner Refining Co. of Electra. The Humble Oil & Refining Co. has a big casinghead gasoline plant in the South Vernon Field.

One of the side lines of the oil business nets a large revenue to the Waggoner Refining Co. in this area. Water supply is always a big problem, but this company has facilities by which it supplies the needs of practically all drillers in the county. The company owns two water stations, one at Rock Crossing and the other at Grayback Crossing on Beaver Creek. The charge for water on a rotary well is $12 a day.

The South Vernon Field was producing 8,466 bbls. according to pipe line runs on August 1, and it is marketed by the Humble as Grade A crude, bringing $2.00.

It is to be noted that every well drilled in the Vernon district may be regarded as a wildcat. Nearly all of the new producers have uncovered different sands, and sometimes offsets produce from entirely different horizons and an entirely different grade of oil. As in other parts of the North Central Texas zone, good wells have been drilled one location away from a totally dry hole, so no test can be regarded as a closed book even if it is apparently situated in what is generally regarded as good old dry hole territory.

The results of the wildcatting campaign on the whole are decidedly disappointing, but as pointed out before, nearly two-thirds of the wells are still drilling, and it is altogether possible that a new South Vernon Field may be discovered within the next few months.

NOCONA FIELD STILL REMAINS AN ENIGMA

(Continued from Page 88)

twin well was then drilled to this gas sand at 735-824 feet for fuel, and the original hole carried down to 2,950 feet, where it was likewise abandoned. Various estimates on the size of the gasser run as high as 100,000,000 feet or more.

Humphreys' Wild Gasser

One of the most interesting features of the field is the wild gasser of the Humphreys interests, which is said to be the only gasser in the State now beyond control. It is estimated as close to 80,000,000 feet in volume with tremenndous pressure, and has formed a great crater about the well. There is a zone of water sands near the surface in this field, extending about 150 feet in thickness, and when the gas from the 800-foot sand gets up into this zone it spreads out and breaks loose, sometimes a quarter of a mile from the well. This has happened in the case of the wild gasser, and the State conservation officers have been powerless to cope with it. The gas has a helium content which may prove of considerable value but it is feared that unless this well can be brought under control the bulk of it will go into the air.

The best well in the field is the Newblock Oil Co.'s No. 1 Maddox, which was completed about the middle of July in sand at 890-1,002 feet, and is estimated good for 150 bbls. F. Julius Fohs is president of the Newblock Oil Co.

The only well in the field that ever flowed was Daniels & Rutis' No. 2 Salmon, which was completed about the first of this month for 37 bbls. in sand at 927-35 feet.

The multiplicity of sands in the Nocona Field can be observed best on the Howard lease of the Texhoma Oil & Refining Co. where four wells, less than 50 feet from each other, are producing from different strata. No. 1 Howard originally made 62 bbls. from sand at 832-53 feet; No. 2 was good for 90 bbls. from four sands and a conglomerate, 769-79, 826-59, 890-95, conglomerate 895-96, and sand 938-1,002 feet; No. 3 made 45 bbls. initially from 1,371-97 feet; and No. 4 was a 60-bbl. well at 1,599-1,631 feet. No. 5 is now drilling. It is interesting to note that the Texhoma company is not pumping any of its wells now, leaving the oil in the ground pending more favorable conditions. The gravity of the Howard oil ranges from 22 to 36 degrees, the lowest being at 1,000 feet and the highest at 1,600 feet.

Uniformity Puzzles

Subsurface work is difficult in this field because of an unconformity which apparently exists between the Canyon and Cisco formations. And the sands, while thick, do not extend over the entire field, but are broken and lenticular, and are liable to be found almost any place in the broken sand zone from about 600 feet to 1,400 feet.

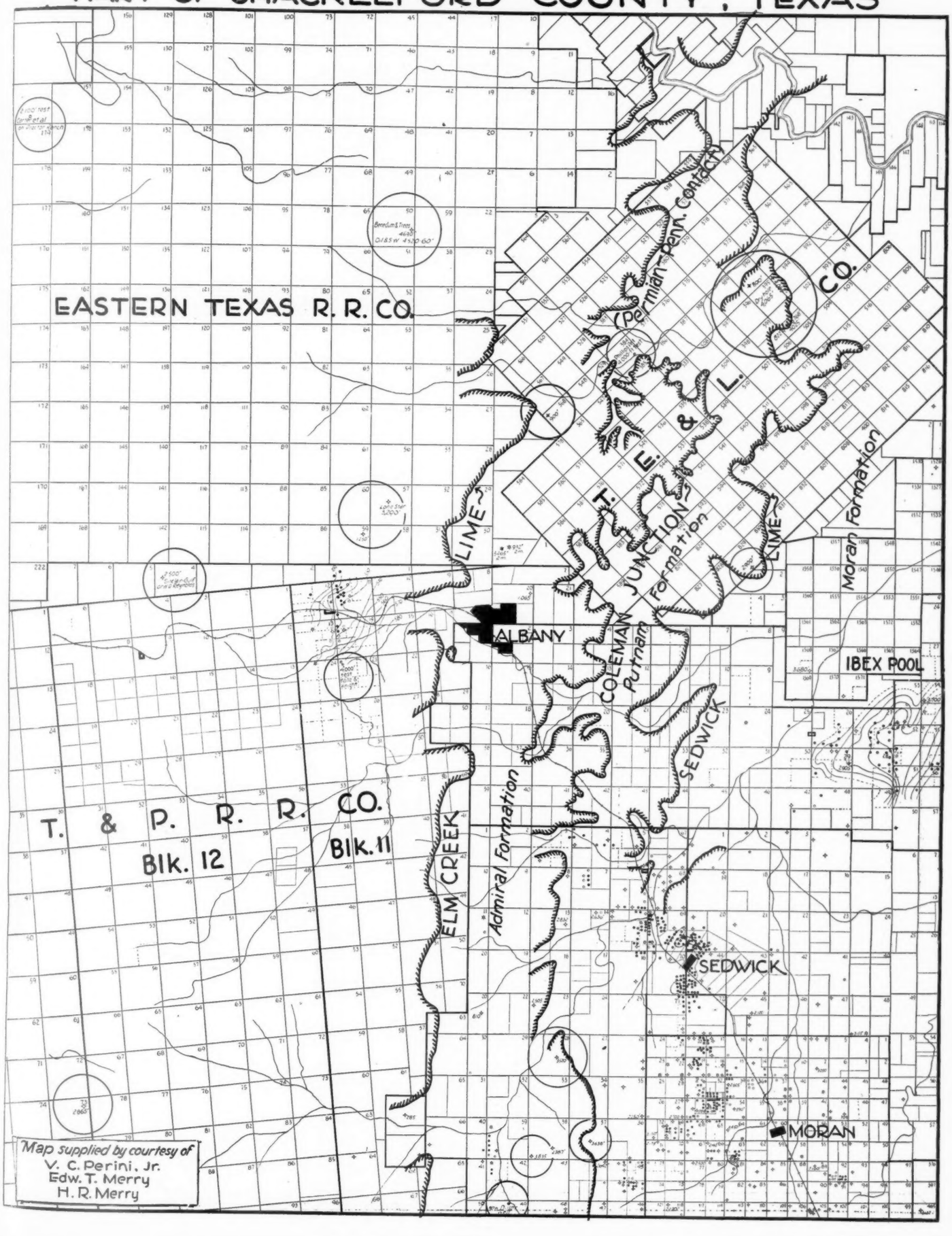
Following are some of the other well records in the field not previously mentioned: The Texas Co.'s No. 1 Gist "A," 35,000,000 feet of dry gas, total depth 850½ feet, completed in December, 1923; the same company's No. 2 Gist "A," good for 140 bbls. in sand at 917-23 feet in November, 1924; No. 3 Gist "A," temporarily abandoned at 2,237 feet; and No. 4 Gist "A," 40 bbls. from sand at 901-07 feet in July this year.

The Texas Co.'s No. 1 Gist "B" made 11,500,000 feet of gas at 641-49 feet in May of 1923.

The Texhoma Oil & Refining Co.'s No. 1 Rowland, was a 4,250,000-foot gasser in the 724-53-foot sand, completed early in July this year. It had 270 lbs. rock pressure. Same concern's No. 1 Rowland "B" was good for the same amount of gas at 756-75 feet.

The Pure Oil Co.'s No. 1 Rowland made 6,000,000 feet of gas at 803-99 feet early in July; the Nocona Gas Co.'s No. 1 Hynd made 12,000,000 feet of gas at 630-73 feet in February, and its No. 2 Hynd was an oil well at 914-30 feet, good for 90 bbls., late in July.

The OIL and GAS JOURNAL'S map of PART OF SHACKELFORD COUNTY, TEXAS



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14 Produce Bulk of Oklahoma Crude

About 40 Per Cent of the Production Divided Among 1,506 Owners, Averaging Only 68 Barrels a Day Each

The gross production report for the second quarter of Oklahoma, which is intended to show the gross production of every operating company, firm and individual in the Oklahoma oil fields, indicates a total of 41,775,591 bbls., or a daily average of 459,072 bbls., of crude petroleum produced in Oklahoma in the period.

Of the total, 78 per cent or 32,403,463 bbls. (356,482 bbls. a day) was produced by 64 corporations, firms and individuals, each with a production of 1,000 bbls. a day or more during the three months' period.

There are 1,570 names listed on the report, which would indicate that the average daily production of operators whose production averaged from 1 bbl. a day to 999 bbls. a day was 68 bbls. a day.

Fourteen operators (corporations, firms and individuals)out of the 1,570 listed produced 25,940,243 bbls. of the total, or over 60 per cent of all the oil produced.

The State Auditor's report for the first three months of the year showed a total of 42,738,978 bbls. and for the last three months in 1924, 46,970,149 bbls.

Following is the list as submitted to The Oil and Gas Journal:

A

Aaronson, C. T. Tulsa	2,078
Acacia Oil & Gas Co., Pawhuska	1,026
Acme Development Co., Tulsa	2,420
Acta Oil Co., Okmulgee	1,342
Adams & McGahey, Ardmore	120
Adams & Prince, Ardmore	4,041
Advance Co., The, Fort Worth, Tex.	303
Aggas, John, Morris	391
Ajax Oil Co., Tulsa	567
Aladdin Oil Co., Kansas City, Mo.	371
Albert, W. O., Tulsa	433
Albion Oil Co., Tulsa	7,416
Alcorn Oil Co., Tulsa	39,027
Aldrew Oil & Gas Co., Tulsa	1,995
Alexander, J. H., Tulsa	254
Alexander-Shakely Petroleum Co., Tulsa	6,115
Allen, G. R., Tulsa	237
Allen, J. R., Tulsa	933
Allen, Sam T., Sapulpa	367
Allen Well Co., Ardmore	844
Allison, J. F., Trustee, Okmulgee	696
Almeda Oil Co., Tulsa	4,200
Alton Oil Co., Bartlesville	215
Amerada Petroleum Co., Tulsa	896,541
American Contracting — Producing Co., Bartlesville	256
American Eagle Oil Co. Bartlesville	23,923
American Oil Development Co., Pittsburgh, Pa.	12,552
American Oil & Gas Co., Bartlesville	5,745
American Pipe Line Co., Wichita Falls, Tex.	4,705
American Royalty Co., Tulsa	687
American State Bank, Boynton	229
Amster, N. L., Ardmore	23,607
Ancutt, G. C., and H. S. Swift, Tulsa	93
Anderson, C. F., Trustee, Dallas, Tex.	3,025
Andes Oil & Gas Co., Tulsa	398
Anglo-Texas Oil Co., Tulsa	14,989
Anthony, S. W., Mounds	846
Arkansas Fuel Oil Co., Pittsburgh, Pa.	3,642
Arkansas City Refining Co., Arkansas City, Kans.	2,791
Arthur Oil Co., Sistersville, W. Va.	8,405
Ashland Oil Co., New York	4,092
Associated Oil Producers, Chicago, Ill.	3,390
Atlantic Oil Producing Co., Dallas Tex.	219,092
Aubyme Oil & Gas Co., Garber	3,703
Ault, J. T., Cleveland	82
Avery Oil & Gas Co., Tulsa	1,904

B

Baker, Frank W., Tulsa	912
Baker Oil & Gas Co., Independence, Kans.	146
Baker & Strawn, Tulsa	17,694
Ball, Cora G., Trustee, Coffeyville, Kans.	1,380
Bamm Oil Co., Tulsa	142
Bank of Commerce, Okmulgee	412
Barbara Oil Co., Okmulgee	15,267
Barber, R. W., Okmulgee	778
Barber Oil Co., Tulsa	360
Barnsdall Oil Co., Tulsa	425,991
Barrows, Elva C., Tulsa	14
Bartles-Johnstone Oil Co., Bartlesville	610
Bartlesville Oil & Improvement Co., Bartlesville	135
Bartlett, D. A., Estate, Marietta, Ohio	250
Bartlett, R. H., Receiver, Tulsa	3,592
Bauder & Franklin, Tulsa	296
Baum, Henry, Ardmore	1,097
Baynes, John A., Exec., Mounds	206
Bay State Oil & Gas Co., Kansas City, Mo.,	16,997
Bay State Oil & Gas Co., Kansas City, Mo., and Paden Oil Co., Oklahoma City	5,478
Baxter, A. B., Estate, Atlantic City, N. J.	497
Baxter, L. W., Tulsa	416
B. B. & Waite Drilling Co., Bartlesville	67
Beacon Oil Co., Bartlesville	12,783
Best, C. E., Depew	842
Beams, Drew, Okmulgee	1,842
Bean, Howard Drilling Co., Okmulgee	5,812
Beattie, R. L. Trustee, Bartlesville	125
Beau-Ard Oil Co., Ardmore	960
Beauchamp, John L., Tulsa	200
Bebout, W. M., Bartlesville	318
Beggs Oil & Gas Co., Okmulgee	12,782
Bell Oil & Gas Co., Warren, Pa.	4,220
Benage, F. L., Delaware	2,175
Bergen Oil & Gas Co., Tulsa	4,815
Berlin & Duffield, Tulsa	764
Berlin, Duffield & Moore, Tulsa	624
Berry, George D., Coffeyville, Kans.	1,348
Berry Petroleum Co., Tulsa	152,015
Bertenshaw, H. G., Nowata	1,958
Ben Frank Oil Co., Enid	608
Best, F. A. and W. J. Lambert, Tulsa	120
Betty G. Petroleum Co., Cement	487
Betty Ruth Oil Co., Broken Arrow	538
Biddle Oil Co., Tulsa	1,229
Big Four Petroleum Co., Oilton	1,975
Big Windy Oil Co., Tulsa	859
Billy Oil Co., Chelsea	170
Bingman, O. A. Okmulgee	725
Bingman, W. B., Okmulgee	675
Bingman, W. B., Trustee, Okmulgee	406
Bingman-Smith Oil Co., Okmulgee	3,457
Bird Creek Oil & Gas Co., Tulsa	1,010
Bird, Gaffney & Simons, Bradford, Pa.	1,064
Bisett, Lytle & Gray, Tulsa	5,487
Bishop Oil Co., Tulsa	175
B. Jack Oil Co., Sapulpa	759
Black, J. J., Phoenix, Ariz.	176
Black, Oliver C., Tulsa	1,610
Black, W. A., Montreal, Canada	152
Black Gold Producing Co., Tulsa	373
Black Panther Oil & Gas Co., Turner & Stone, Trustees, Oklahoma City	21,384
Black, Sivalls & Bryson, Inc., Bartlesville	10,382
Blackstone Oil Co., Tulsa	3,395
Blackwell Oil & Gas Co., Blackwell	186,165
Blakeslee, H. W., Nowata	1,752
Bloch Investment Co., Tulsa	452
Bloch Oil Co., Tulsa	1,044
Blubaugh, George L., Coffeyville, Kans.	152
Bole, George S., Tulsa	31,969
Boles, Neal & Perry, Cleveland	716
Bonifield, H. A., Elmore City	250
Bolivar Run Oil Co., Tulsa	1,204
Bonnell, John H., Los Angeles, Calif.	1,275
Boop, Sitz, Glass & Calvert, Nowata	63
Bovaird, W. M., Tulsa	292
Bovaird, W. M.-Coser, Sapulpa	8,612
Braden, C. E., Tulsa	298
Braden Co., The, Tulsa	3,638
Braden & Moore, Tulsa	13,911
Braden & Beren, Eldorado, Kans.	732
Bradfield, C. H., Receiver, Tulsa	4,505
Bradford Oil Corp., Robinson, Ill.	982
Bradley, E. A., Anna and Arch E., Tulsa	1,719
Bradley, Anna, Irene G. Hildreth, Edith Parr, Maude A. Bynum, Tulsa	1,066
Bradnorking Oil & Gas Co., Tulsa	940
Bradstreet, J. G., Muskogee	255
Bradstreet, J. G. & Co., Tulsa	544
Brady, E. H., Tulsa	744
Brady, E. H., Tulsa, John Swanson and Fred Swanson Estate, Chanute, Kans., and Dan Kelly, Marietta, Ohio	1,960
Brann, James, Bartlesville	3,275
Branson & Harmon, Nowata	1,112
Breene, Frank M. et al, Tulsa	18,619
Breene, Frank M., Trust Estate, Tulsa	33,499
Breene, Mabel V., Tulsa	92
Brewer, R. P., Trustee, Tulsa	5,812
Bridgman, Welsh & Haner, Muskogee	925
Bright, Samuel, Okmulgee	1,060
Brittain, R. E., Oklahoma City	15,230
Britton-Johnson Oil Co., Tulsa	13,520
Brock, C. N. Okmulgee	1,425
Brock, John L. Jr., Okmulgee	6,750
Brown, Charles H., Oklahoma City	28
Brown, E. A., Greencastle, Ind.	925
Brown, Dr. George W., Los Angeles, Calif.	458
Brown, Guly, Oil Co., Wichita Falls, Tex.	4,037
Brown, L. H., Butler, Pa.	133
Brown, Robert D., Trustee, Kansas City., Mo.	2,920
Brown, Robert D., Trustee, Kansas City., Mo.	1,126
Brown, Tracy D., Receiver, Tulsa	12,406
Brown, W. E. Co., Tulsa	1,173
Brown Oil & Gas Co., Morris	100
Bruen, Rigdon & Bruen, Kansas City, Mo.	617
Brundred Oil Corp., Oil City, Pa.	1,709
Bruner, Oil Co., The, Independence, Kans.	510
Bryan, Frank, Tulsa	171
Bucher, P. O., Bartlesville	473
Buckles, C. O., Tulsa	1,960
Buchner, Guy M., Holdenville	53
Bull Head Oil Co., Ardmore	889
Burke & Greis, Tulsa	568
Burke-Greis Oil Co., Tulsa	117,276
Burke-Hoffeld Oil Co., Tulsa	14,420
Burns, J. R., Lawton	206
Burton-Springfield Oil Corp., Tulsa	7,107
Bushfield & Co., Chelsea	534
Butler, A. B., Guardian, Oklahoma City,	144
Butler & Johnstone, Oklahoma City	264
Buttram, Frank, Oklahoma City	273,508
Buttram Petroleum Corp., Oklahoma City	108
Bu-Vi-Bar Petroleum Corp., Bristow	17,278
Byers, C. F., Sapulpa	331
Byers, Mrs. Myrtle S., Nowata	17

C

Cabin Valley Mining Co., Chelsea	2,666
Cala Belle Oil Co., Cement	626
Callahan Oil Co., Omaha, Neb.	221
Callihan, W. F., Sapulpa	434
Cameron Refining Co., Ardmore	75,869
Campbell, H. B., Welch	295
Campbell, H. L., Trustee, Nowata	560
Campbell, H. L. Nowata	435
Campbell, Hanlin & Cobbs, Nowata	118
Campbell, J. A., No. 2, Tulsa	352
Campbell Oil Co., Tulsa	6,703
Campbell & Wolford, Tulsa	892
Canary & Canary, Littleton, Colo.	3,005
Canary, E. L. and A. J., Caney, Kans.	2,313
Canary, J. D., Littleton, Colo.	4,393
Canary, S. C., Tulsa	8,796
Canary-Sinclair, Littleton, Colo.	138
Canfield, W. E. and G. W., Yale	745
Canterbury, S. L., Bristow	2,963
Carder, A. E. et al, Coweta	422
Carey Oil & Gas Co., Wellsville, N. Y.	474
Carlin, Maud, Haskell	64
Carlock & Dexter, Ardmore	3,442
Carlock, J. H., Trustee, Ardmore	9,975
Carmer, Akin & Argue, Bartlesville	1,044
Carpathia Petroleum Co., Tulsa	24,371
CaCrr, J. M., Okmulgee	185
Carr, M. L., Okmulgee	8,416
Carson, W. A., Oklahoma City	2,100
Carter Oil Co., Tulsa	2,188,536
Cassidy, Alice M., Admrx., Guthrie	3,556
Catlett-Davis Oil Corp., Tulsa	129
Catlett, J. G., Tulsa	975
Central Petroleum Co., Tulsa	11,373
Central Producing Co., Muskogee	44
Central State Oil & Gas Co., Tulsa	1,993
Chamberlain, Cecil C., Tulsa	397
Chamberlain, H. G., Marietta, Ohio	279
Champlin & Bass, Inc., Enid	3,935
Champlin Refining Co., Enid	13,514
Chapman, O. H., Waxahachie, Tex.	989
Chestnut & Smith, Tulsa	178
Chestnut & Smith Corp., Tulsa	9,068
Chic-Osage Oil & Gas Co., Tulsa	313
Chief Bigheart Oil & Gas Co., Wichita, Kans.	75
Chief Drilling Co., Okmulgee	210
Choctaw Oil Producing Co., Tulsa	940
Cimarron River Oil & Gas Co., Oklahoma City,	1,622
Cline Oil Co., Wichita Falls, Tex.	160
Clarion Oil Co., Houston, Tex.	10,497
Clark, H. E., Okmulgee	608
Clark, L. P., Independence, Kans.	201
Clark, Maurice G., Muskogee	216
Claymo Oil & Gas Co., Clayton, Mo.	430
Cleeton Oil Co., Cleveland	761
Cobb, Guy P., Ardmore	2,740
Cobb & Hollingsworth, Ardmore	540
Coblelgh & Shipman, Bartlesville	460
Coe, R. W., Trustee, Ardmore	16,112
Coe, R. W., Ardmore	1,809
Coen, C. W., Trustee, South Bend, Ind.	475
Cohen, Aaron, Baltimore, Md.	1,798
Cole Oil Co., Tulsa	139
Coline Oil Co., The, Oklahoma City	170,318
Collins, Ida M., and Ray M., Tulsa	700
Collins, June H., Tulsa	246
Colpitt, C. R., Collinsville	456
Columbia Petroleum Co., Tulsa	1,780
Comar Oil Co., St. Louis, Mo.	3,285,489
Commercial Drilling Co., Tulsa	4,043
Commendable Oil Co., Oklahoma City	37
Commonwealth Oil Co., Warren, Pa.	1,154
Compton, O. W., et al, Independence, Kans.	337
Comstock, A. C., Tulsa	475
Connely, E. A., Tulsa	4,513
Connelly, E. L., Tulsa	130
Connelly, E. L., et al, Tulsa	5,113
Connelly, G. W., Caney, Kans.	1,994
Connelly, W. C., Tulsa	462
Constantine, C., Pawhuska	1,922
Continental Oil Co., Denver, Colo.	145,053
Continental Oil Co., Oklahoma City	14,475
Continental Refining Co., Independence, Kans.	2,376
Continental Supply Co., St. Louis, Mo.	3,435
Coombs, Oil, Gas & Land Co., Bartlesville	1,050
Cora Exploitation Co., St. Louis, Mo.	802
Corbin & Haver, Tulsa	3,129
Corona Oil & Gas Co., Cleveland	3,161
Corona Oil Co. (N. T. Gilbert and Julius M. Mayer, Receivers), Tulsa	6,505
Correne Oil Co., Tulsa	1,960
Cortez Oil Co., Tulsa	166,371
Corry, L. L., Fresno, Calif.	73
Cosden, J. S., Tulsa	2,784
Cosden Oil & Gas Co., Tulsa	194,200
Cotton Belt Petroleum Co., N. T. Gilbert, Receiver, Tulsa	42,648
Cowles, La Monte, Burlington, Iowa	355
Cowling, L. A., Porter	578
Cox, Frank, Shoshone, Idaho	103
Craig, D. F., Independence, Kans.	178
Crawford, J. W. R. & Sons, Inc., Tulsa	513
Creekmore, Morrison & Wolfe, Tulsa	323
Cremal Oil Co., Bartlesville	94
Creo Oil Co., Tulsa	12,395
Crescent Oil Co., Bartlesville	539
Crews Estate Oil & Gas Production, Enid	26,807
Criswell, Georgia B., Haskell	630
Critchlow, W. S., Ardmore	746
Crockett, Elizabeth R., Oklahoma City	96,536
Cronable & Hess, Bartlesville	389
Crosble, Davis, Sloan & Strum, Tulsa	2,280
Crosbie & Gillespie Gasoline Plant, Tulsa	3,767
Crosbie, Strum & Davis, Tulsa	2,955
Crosby Drilling Co., Inc., Olean, N. Y.	268
Crown Petroleum Corp., Houston, Tex.	26,356
Cruce & Potter, Ardmore	1,295
Cruce-Smith-Cruce, Ardmore	2,624
Crump & Beard, Duncan	5,105
Crump, J. L., Duncan	7,236
Cuckow, C. J., Steedham	759
Cudahy Oil Co., Cleveland, Ohio	25,859
Cumberland Petroleum Co., Cleveland, Ohio	34,043
Curtin & Aiken, Tulsa	495
Curtis, W. L. Co.; Elmire, N. Y.	188
Curtin, W. L. Co. and F. M. Aiken, Inc., Elmira, N. Y.	1,527
Cusack, F. E., Okmulgee	1,327
Cushing Gasoline Co., Tulsa	7,542
Custer Oil Co., Okmulgee	1,027

D

Daisy Belle Petroleum Co., Ardmore	6,382
Dallas Co., Tulsa	4,568
Damme-Pringle Oil & Gas Co., The, Okmulgee	709
Damon Oil Co., Tulsa	2,200
Dana Oil Co., Bartlesville	904
Danciger Oil & Ref. Co., Tulsa	726
Dannenburg, Sarah E., Executrix, Chinlsea	275
Darby-Lynde Co., The, Tulsa	1,105
Darby Petroleum Co. of New York, Tulsa	635
Davis, Joseph D., Tulsa	147
Davis, C. P., Bristow	1,911
Davis, L. R., Tulsa	1,100
Davis, R. D., Cleveland	503
D. C. F. S. & Co., Ardmore	523
Dean, John, Estate, Guthrie	945
Deems, H. C., Tulsa	570
Deep Fork Oil Co., Marietta, Ohio	2,500
Deep Rock Oil & Ref. Co., Tulsa	52,906
Dehner, A. L., Tulsa	29
Deichman, Peter, Receiver, Tulsa	391
Dekoma Development Co., Tulsa	330
Delaware-Cherokee Oil Co., Dewey	2,744
Delmar Oil Co., Bartlesville	84,748
Delma Oil & Gas Co., The, Muskogee	1,526
Delokee Gas & Oil Co., Bartlesville	1,792
De Long, R. J., Cleveland	141
Demack Oil Co., Tulsa	86
Dempsey Oil Corp., New York, N. Y.	2,575
Dempsey, John J., New York, N. Y.	97
Dennis, M. A., Receiver, Okmulgee	327
Denver Producing & Refining Co., Okmulgee	1,554
De Soto Gaso. Co., Houston, Tex.	1,471
De Vinna, M. A., Tulsa	455
Devonian Oil Co., Tulsa	141,917
Dewey Portland Cement Co., Dewey	899
Dierks, Fred H., Trustee, Kansas City, Mo.	1,568
Dierks, Fred H., Trustee, Kansas City, Mo.	1,999
Dickerson, O. W. Oil Co., Oklahoma City	148
Dickson, C. E., Owasso	675
Dilley, W. Y., Trustee, Waurika	1,668
Dixie Oil Co., Inc., Shreveport, La.	283,420
Dixie Oil Co., Cement	2,545
Dixon, H. O., Bartlesville	4,409
Doak, James, Cushing	225
Dock Oil & Gas Co., Bartlesville	784
Dodd, Wm. A., and J. C. Ohover, Tulsa	1,334
Dolman, L. S., Walter H. Gant and S. W. Tyer, Ardmore	8,254
Dominion Oil Co., Washington, D. C.	244
Donnelly, J. E., Tulsa	200
Donahoe, J. L., Tulsa	1,794
Donohue, W. J., Bartlesville	100
Doris Oil & Gas Co., Tulsa	902
Douthitt & Melton, Duncan	132
Dover Oil Co., Bartlesville	790
Doyle, Pearl Keys, Kansas City, Mo.	350
D. & S. Oil & Gas Co., Tulsa	1,300
Duffield & Howard Oil Co., Tulsa	3,368
Duffield, L. C. & Co., Tulsa	4,385
Duffield, Lewis C., Tulsa	862
Dunn Oil Co., Tulsa	395
Duna Mineral Trust, Ardmore	4,223
Dunnigan, A. S., Tulsa	458
Dwyer, J. D., Tulsa	4,158

E

Eartex Petroleum Co., E. S. Hall, Receiver, Duncan	250
Eason, T. T., Enid	238
Eastern Oil Co., Buffalo, N. Y.	110,303
Ebling, L. R. & Co., Bartlesville	1,612
Echo Oil Co., Tulsa	32,622
Eliza-Tim Oil Co., Sapulpa	363
Elk Producing Co., Tulsa	1,466
Ellen Oil & Gas Co., Tulsa	2,606
Elliott, W. C., Tulsa	336
Elliott & Smith, Tulsa	9,451
Elliott & Vensel, Tulsa	10,342
Ellis, M., Tulsa	5,512
Elmer Oil Co., Elmira, N. Y.	2,245
Elo Oil Co., Tulsa	1,101
Emery Brothers, Bradford, Pa.	4,644
Empire City Co., Tulsa	1,398
Empire Gas & Fuel Co., Del-Okla, Bartlesville	251,410
Enfisco Oil Corp., Tulsa	12,240
Enid 80 Oil & Gas Co., Enid	355
Enterprise Transit Co., Titusville, Pa.	3,730
Erton Oil Inv. Co., Pawhuska	3,512
Evans, O. I., Bristow	1,075
Evidence Oil Co., Caney, Kans.	1,060
Exchange Oil & Gas Co., Tulsa	2,018
Exchange Nat'l Bank of Tulsa, Tulsa	5,295
Exchange Nat'l Bank of Tulsa, Tulsa	1,584
Exchange Trust Co., Receiver, Tulsa	140

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Exchange Trust Co., Receiver, Tulsa 69

F

Faltinson, A. Tulsa 5,765
Fan-Elva Oil & Gas Co., Pittsburgh, Pa. 1,739
Farmer, A. L., and A. E. Duran, Tulsa 233
Farr, Essie, Okmulgee 170
Farren, C. F. Tulsa 6,331
Fay Drilling Co., Tulsa 105
Federal Oil Corp., Cleveland, Ohio 87
Fee Oil Co., Muskogee 203
Fellowship Oil & Drilling Co. and S. J. Dunn, Tulsa 173
Fern Oil & Gas Co., Yale 5,425
Fidelity State Bank, Cleveland 26
Fifty-Nine Osage Oil Co., Bartlesville 42,695
Finance Oil Co., Pawhuska 21,459
Finance Oil Co. and Livingston Oil Co., Pawhuska 616
First National Bank, Trustee, Coweta 626
First National Bank, Trustee, Coweta 375
First National Bank, Dewey 494
First National Bank, Haskell 156
First National Bank, Trustee, Coweta 95
Fisher Oil Co., The, Pittsburgh, Pa. 506
Fitzgerald, D. C., Trustee, Ardmore 9,434
Fitzgerald, H. L., Tulsa 44
Fitzgerald, John W., Bartlesville 196
Fitzgerald & Withington, Tulsa 1,355
Flanagan & McGrath, Delaware 178
Flat Rock Oil Co., Tulsa 1,509
Fleming, Martin C., Tulsa 2,200
Fleming & Bedford, Chelsea 115
Flight, D. B., Dewey 105
Flora-Okla. Oil Co., Cement 6,336
Foltz, John M., Muskogee 555
Force Oil Co., Tulsa 183
Forster, Sadie F., Dallas, Tex. 1,349
Fort Ring Oil & Gas Co., Fort Worth, Tex. 6,003
Fortuna Oil Co., Dallas, Tex. 392,858
Foster Investment Co., Tulsa 48,380
Foster Petroleum Corp., Bartlesville 37,364
Foster & Davis, Inc., Bartlesville 15,167
Foster & Leech, Bartlesville 253
Fox, W. T., Sapulpa 540
Fox Petroleum Co., Ardmore 7,386
Franchot, D. W. & Co., Tulsa 25,882
Francis, W. C., Siklatook 249
Franklin Oil Co., Franklin, Pa. 411
Frates Oil Co., Tulsa 206
French, M. C., Okmulgee 322
Funk, A. L., Tulsa 3,175

G

Gaffney, H. E., Estate, and H. B. Gaffney, Bradford, Pa. 2,417
Gaffney, H. E. Estate, and Olive Gaffney, Bradford, Pa. 1,083
Galbraith, H. H., et al, Independence, Kans. 2,684
Galvez Oil Corp., Tulsa 11,644
Gambill, G. W., Terre Haute, Ind. 1,855
Gamo Oil Co., Claremore 282
Gant, Walter H., Ardmore 3,092
Gardner, H. N., Tulsa 695
Gardner, J. H., Okmulgee 906
Gardner Oil Co., Tulsa 83
Gardner Petroleum Co., Tulsa 102,360
Gardner & Avery, Tulsa 225
Garis, Ralph, Chelsea 50
Gates Oil Co., Oklahoma City 306
Gates Oil Co., Ardmore 32,404
General Petroleum Engineers, Inc., Tulsa 230
Geneva Pearl Oil & Gas Co., Ardmore 3,455
Genevra Oil Co., The, Bartlesville 609
Georgia Oil & Gas Co., Copan 2,981
Gerlach, A. P., Estate, Tulsa 505
Getty, George F. et al, Tulsa 778
Getzendaner, R. W., Waxahachie, Tex. 1,095
Gibson-Zahniser Oil Corp., Tulsa 9,700
Giddings, F. C., Tulsa, C. L. Egan, Denver, Colo.; R. A. Welch, Houston, Tex., A. B. D. Cague, Tulsa, and W. H. Grah, Tulsa 824
Gilchrist, H. M., Estate, Bartlesville 947
Gill, A. J., Okmulgee 205
Gilcrease Oil Co., Tulsa 34,548
Gillespie, F. A. & Sons Co., Tulsa 37,355
Gillespie, Joe, Coffeyville, Kans. 88
Gillette, J. M., Tulsa 1,570
Gilliland Oil Co., Tulsa 80,110
Gilmer Oil Co., Ardmore 35,254
Gilmer Oil Co., Lamine, Mo. 80
Gladys Belle Oil Co., Tulsa 23,300
Glass, J. Wood, Nowata 482
Glass & Harmon, Nowata 6,886
Glass, Reed & McSpadden, Nowata 248
Glass & Weaver, Nowata 89
Gled Oil Co., Tulsa 843
Goble, B. G., Tulsa 984
Goddard, C. B., Ardmore 2,575
Godfrey, F. L., Enid 996
Goldie Oil & Gas Co., Kansas City Mo. 789
Goodyear Oil Co., Tulsa 2,469
Gordon, Mary Louise, Beverly Hills, Calif. 1,628
Gorman, M., Trustee, Ardmore 1,240
Graham, James H., Bartlesville 11,906
Graham Mineral Trust, Ardmore 3,474
Graham Oil Syndicate, Chickasha 289
Grand Duke Production Co., Muskogee 578
Great Southwestern Petroleum Co., Oklahoma City 215
Gray Oil Co., Tulsa 6,433
Green, W. B., Oklahoma City 7,811
Greenfield Trust, The, Rock Island, Ill. 877
Greenwalt, H. L., Okmulgee 360
Gregg, C. O., Ardmore 4,680
Grieves, John B., Terlton 9,171
Griffin Producing Co., The, Tulsa 3,623
Grimes, W. Baker, Tulsa 200
Grimes, Blair et al, Tulsa 362
Grimes & Gillespie, Tulsa 43,937
Grimes, Parent, Gillespie & Dickson, Tulsa 80
Grubbs, E. B., Muskogee 409
Guardian Oil Co., Inc., Tulsa 8,252
Gypsy Oil Co., Tulsa 2,677,565

H

H. & M. Petroleum Co., Tulsa 1,050
H. C. W. Oil Co., Chelsea 502
Hale, C. R. et al, Bartlesville 2,321
Great Southwestern Petroleum Co., Hales, W. T., Oklahoma City 94,751
Haley, Garber & Pulse, Enid 2,127
Halfast, E. W., Muskogee 300
Halfmoon Oil Co., and W. B. Bailey, Bartlesville 388
Hall & Lucas, Duncan 1,110
Hall, John M., Tulsa 142
Halsell & Son Oil & Gas Co., Vinita 1,422
Holtzendorff, C. B., John Q. Adams, Alex A. Dennison and A. D. Tusing, Claremore 133
Hambro Oil Co., St. Louis, Mo. 3,352
Hamilton, W. R., Dewey 1,281
Hammat, D. M. & Co., Tulsa 1,695
Hamill, A. W., Tulsa 250
Hamon & Colcord, Ardmore 14,840
Hamon, Jake L., Jr., Ardmore 426
Hamon, Jake L., Estate, Ardmore 12,249
Haubert, H. J., Tulsa 315
Hancock Oil Co., Tulsa 582
Hancox, T. H., I. W. Hancox, T. H. Hancox, Jr., and L. L. West, Tulsa 854
Hancox, T. H., Tulsa 433
Hand, H. M., Tulsa 116
Haner Oil & Ref. Co., Muskogee 463
Haner, J. A., Tulsa ..... 7,...
Haner, J. L., Muskogee 90
Hannis Oil Co., Tulsa 285
Harland Oil Co., Pittsburgh, Pa. 28,621
Harlin, E. C., et al, Welch 147
Harmon, C. C., Nowata 1,752
Harmon, W. J., et al, Okmulgee 563
Harmon, W. J., et al, Okmulgee 4,722
Harold Petroleum Co., Blackwell 2,104
Harrey and H. C. Ewes & Sons, Peru, Kans. 211
Harrington, W. J., Coffeyville, Kans. 3,088
Harrington, W. M., Marietta, Ohio 140
Harrington, Lillian F. No. 4, Tulsa 46
Harrington, Lillian F. No. 5, Tulsa 202
Harris-Hays Co., Okmulgee 1,524
Harris, Haun & O'Shaughnessy, Blackwell 945
Harris, Mrs. L. C., Rising Sun, Ind. 944
Harris-Strawn Oil Co., Ardmore 3,496
Harris, T. D., Trustee, Tulsa 30
Hartman & Mann, Pittsburgh, Pa. 462
Hartz, Ben, Baltimore, Md. 300
Harwell, E. P., Tulsa 9,210
Haskell, F. K. Agent, Bartlesville 769
Haskell, F. K., Bartlesville 230
Hastings, W. T., Marietta, Ohio 279
Hatch, G. W., Nowata 142
Haury-Manahan & Co., Blackwell 3,176
Hayner Petroleum Co., Tulsa 808
Hays Oil Co., The, Oil City, Pa. 728
Haze, S. P., Tulsa 208
Hazlett, A. G., Morris 1,300
Hazlett, Bradford & Frazier Bros., Eldorado, Kans. 2,842
Healdton Field Oil Co., El Reno 1,110
Healdton Oil & Gas Co., Enid 113,881
Hector Oil Co., Bartlesville 35
Heenan, J. A., Ardmore 1,809
Heenermann, Earl H., Chicago, Ill. 278
Hefner Co., The, Ardmore 1,033
Heggem & Davis, Tulsa 1,489
Helena Oil & Gas Co., Tulsa 13,888
Henson Producing Co., Tulsa 296
Henderson Co., The, Tulsa 216
Henderson & Holden, Eldorado, Kans. 781
Hendricks, H. G., Bristow 275
Hendricks, Ida, Tulsa 72
Hennessey, J. E., and J. T. Thompson, Okmulgee 98
Hennessey, J. E., Okmulgee 1,436
Henry Oil Co., The, Tulsa 9,640
Henry & Ayers, Inc., Tulsa 1,030
Henton, E. L., et al, Chelsea 1,243
Herbert Oil Co., Fort Worth, Tex. 55,217
Hertzel, F. E., Warren, Pa. 1,834
Hewitt Mineral Trust, Ardmore 1,200
Hibbard, S. B., S. S. Glasscock and John R. Hammond, Trustees, Kansas City, Mo. 1,090
Hickernell, G. W., Warren, Pa. 547
Hickman, L. D., Arkansas City, Kans. 150
Higgins Oil & Fuel Co. and Pulaski Oil Co., Tulsa 2,746
Highway Oil Refining Corp., Tulsa 6,191
Hillside Oil, Gas & Coal Co., Aurora, Ill. 606
Hillside Oil Co., Tulsa 3,299
Hilltop Oil Trust, Ardmore 4,498
Hinerman & Marshall, Tulsa 4,532
Hinkle, Fitzgerald & Westheimer, Ardmore 5,382
Hippodrome Oil Co., Tulsa 615
Hiram Oil & Gas Co., Kellyville 1,407
Hiteshew, W. B., Trustee, Robinson, Ill. 428
Hockensmith, R. A., Okmulgee 925
Hoefer, Perry A., Ponca City 11,067
Hoefer, C. C., Kansas City, Mo. 42
Hoffer Oil Corp., Fort Worth, Tex. 5,158
Hoge, J. B., Nowata 230
Holbrook, H. T., Tulsa 76
Holden Oil Co., Tulsa 668
Hollis, Elsie B., Los Angeles, Cal. 156
Holm, Coombs & Chapman, Bartlesville 623
Holmes Oil Co., Tulsa 6,316
Home Gas Co. of Cushing, Cushing 14,235
Homaokla Oil Co., Oklahoma City 29,024
Hope Petroleum Corp., Tulsa 5,647
Hornecker & Graham, Tulsa 402
Hornecker & Hagler, Tulsa 2,258
Hornecker, Henry, Tulsa 648
Hornecker, Miller & Dunigan, Tulsa 245
Horner, W. H., Cleveland 283
Howard Petroleum Corp., Tulsa 686
Howard, Duffield & Berlin, Tulsa 6,046
Howard, O. R., Tulsa 37,045
Huckleberry, J. H. No. 5, Kansas City, Mo. 21
Huddleston, C. T., Tulsa 1,875
Hudson Oil Co., Wellsville, N. Y. 198
Hughes, R. A., Cygnet, Ohio 357
Hughes, T. J., Cushing 275
Hughes Stone Co., The, Tulsa 814
Hughes-Solether & Brecht, Cygnet, Ohio 186
Hughes & Schwyn, Cygnet, Ohio 466
Hulen, H. E., Bartlesville 1,239
Hulings, F. W., and D. M. Smith, Okmulgee 418
Hulings, F. W., Harlingen, Tex. 493
Hulings, F. W., Trustee, Harlingen, Tex. 229
Hulings, M. C., Tulsa 180
Hull, J. A., Tulsa 176
Hull, J. A. Co., Tulsa 38,225
Hull, J. D., Tulsa 75
Humble Oil & Ref. Co., Houston, Tex. 284,692
Hummel, Chas. S., Chelsea 430
Hummel, Mrs. Sadie L., Chelsea 235
Humphreys, L. L., Duncan 1,375
Hurd, Paul R., Broken Arrow 188
Hurdle, H. J., Mounds 172
Hurford, G. H., Tulsa 475
Hutch Oil & Gas Co., Kansas City, Mo. 352
Hutchinson, E. A., Trustee, Bar-

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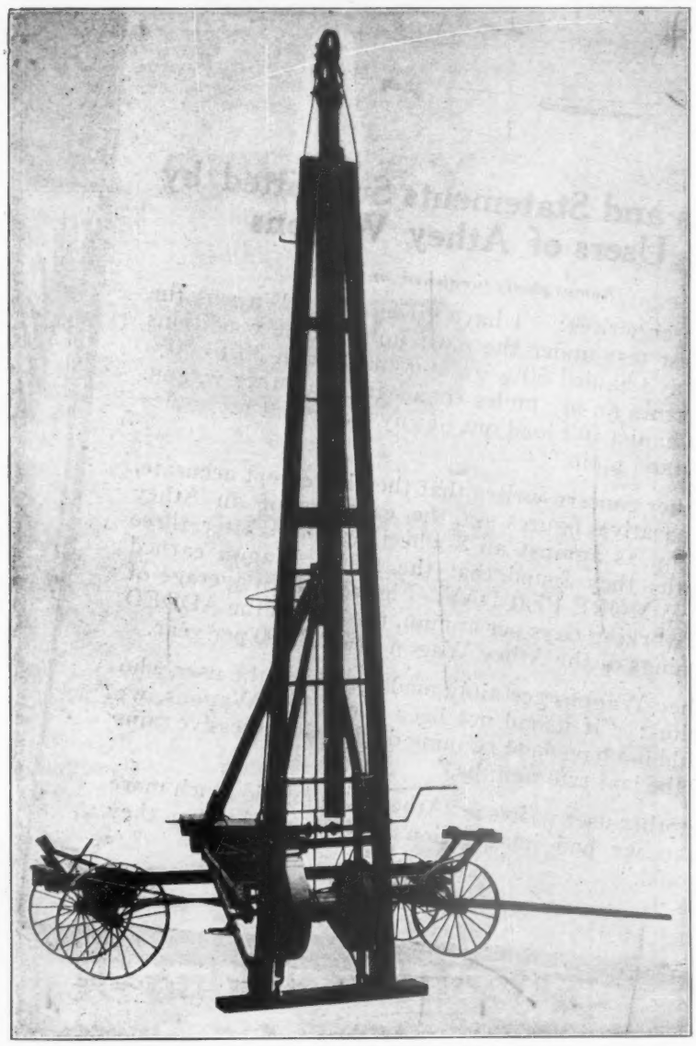

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tlesville	486
Hutchison, L. L., Trustee, Kanola Oil & Ref. Co., Tulsa	1,747
I	
Ideal Royalty Co., Tulsa	1,845
Illata Oil Co., Vinita	59
Illinois Oil Co., Chicago, Ill.	1,376
Illinois Refining Co.-Kawfield Oil Co., Cushing	9,757
Imo Oil & Gas Co., Covington	13,938
Independence Oil Co., Bartlesville	1,251
Independent Oil & Gas Co., Okmulgee	489,408
Idiahoma Oil Corp., Okmulgee	20,658
Indian Territory Illuminating Oil Co., Bartlesville	87,069
Indiana Oil & Gas Co., Tulsa	34,156
Interstate Oil & Gas Co., Bartlesville	4,252
Invader Oil Corp., Muskogee	3,886
Irelan, O. M., Sapulpa	1,961
Iron Mountain Oil Co., The, Tulsa	45,197
Irvine, James, Sapulpa	365
Irwin, John S., Bartlesville	774
Irwin & Miller, Bartlesville	1,008
I. X L. Drilling Co., Tulsa	292
J	
Jacobs, Leo, St. Louis, Mo.	5,042
Jackson, B., Sapulpa	645
Jackson, Wise & Bovaird, Sapulpa	1,736
Jackson, Wise & Markham, Sapulpa	4,712
Jackson, Wise & Snedden, Sapulpa	2,245
Jacques, Denton, Arkansas City, Kans.	1,575
Jacques, Effie M., Arkansas City, Kans.	1,575
Jane Oil Co., Oklahoma City	2,796
Jankowsky, Mose, Tulsa	1,989
Jeannette Oil Co., Chelsea	533
Jeff Oil Co., Chelsea	376
Jelinek, John, Nowata	411
Jennie Oil Co., Chelsea	263
Jennings, Edward H. Est. and R. G. Jennings, Pittsburgh, Pa.	245
Jennings, E. H. Bros. Co., Pittsburgh, Pa.	3,188
Jennings, R. G., Pittsburgh, Pa.	14,408
Jennings, R. G., and Snowden & McSweeney Co., New York, N. Y.	3,986
Jenson, H. A., Tulsa	459
Jenson, P. W., Chelsea	323
Jewel Oil & Gas Co., Tulsa	163
Jim-Glenn Oil Co., Tulsa	5,228
Jitney Oil Co., Tulsa	18
Johneda Oil Co., Tulsa	29,925
Johnson, Mrs. C. L., Kansas City, Mo.	125
Johnson, C. O., Ponca City	450
Johnson Oil Ref. Co., Chicago, Ill.	11,344
Johnson Farm Oil Co., Warren, Pa.	1,161
Johnston, T. A. & Co., Okmulgee	135
Jomack Oil Co., Bristow	80,570
Jones, R. C. & Co., Inc, Cushing	613
Josey Oil Co., Tulsa	178,914
Judson Oil Co., N. T. Gilbert, Receiver, Tulsa	1,557
K	
Kahle, Clyde, Cyril	1,186
Kano Oil Co., Nowata	267
Kanola Oil & Ref. Co., Tulsa	699
Kansas-Okla. Consolidated Oil Co., Minneapolis, Minn.	843
Katy Oil & Gas Co., Bartlesville	1,458
Kaw Petroleum Co., Tulsa	104
Kay & Kiowa Oil Co., Tulsa	18,515
Keener Oil & Gas Co., The, Tulsa	40,728
Keeter, J. A., Tampa, Fla.	400
Keith, J. H., Coffeyville, Kans.	277
Kell, Frank; G. G. Kemp and Edward Schlaffke, Electra, Tex.	5,215
Kelly, Thos. C., Sapulpa	850
Kelley, Benjamin F., et al Tulsa	168
Kelley, T. G., Trustee, Sapulpa	9,500
Kennedy, J. L. and S. G., Tulsa	1,924
Kennedy, S. G., et al, Tulsa	279
Kennedy, H. W., Tulsa	741
Keno Oil Co., The, Tulsa	580
Kerull Oil Co., Tulsa	2,674
Keys Oil Co., Tulsa	613
Keystone Oil & Gas Co., Independence, Kans.	387
Kewanee Oil & Gas Co., The, Titusville, Pa.	103,895
Kennedy, J. L., Estate, Tulsa	124
King, F., et al, Okmulgee	1,158
King, John, Receiver, Okmulgee	29,594
King, Bros., Okmulgee	2,071
King & Harrington, Tulsa	305
King Phillip Oil Co., New Bedford, Mass.	181
Kingsbury, C. F., George Kinney, E. M. Monsell and C. F. Tingley, Sand Springs	1,776
Kingsbury, C. W., Tulsa	643
Kingsbury, C. W., George Kinney, Sand Springs	136
Kingsbury, C. W., George Kinney, C. F. Tingley and C. B. Stuart, Sand Springs	328
Kingsley, W. L., Kansas City	155
Kingwood Oil Co., The, Okmulgee	103,380
Kinney, George W., Tulsa	643
Kinney, George, Trustee, Tulsa	1,681
Kinney-Wood-McIntyre, Tulsa	268
Kirk Oil Co., Ardmore	28,192
Kirkwood & Kennedy, Tulsa	486
Kirkwood Oil Co., Okmulgee	93,130
Kistler, Ernest L., Tulsa	3,438
Kistler Petroleum Co., Tulsa	9,455
Kline & Braan, Inc., Tulsa	4,160
Knappenberger, D. L., Sapulpa	175
Knappenberger, W. E., Tulsa	175
Knickerbocker Oil Co., Tulsa	2,688
Knupp Oil Co. and Phillips Petroleum Co., Warren, Pa.	680
Knupp Oil Corp., Warren, Pa.	644
Kunkel, W. A., Bluffton, Ind.	175
L	
Lackawanna Prod. & Ref. Co., Scranton, Pa.	437
Lackey, Frank D., Wilmington, Del.	70
Lahman Bell Oil Co., Dewey	765
Lambert, E. J., Tulsa	2,900
Lambert Oil & Gas Co., Tulsa	6,467
Lamberton, J. S., Tulsa	372
Lamberton, W. J. Est., Tulsa	62
Lamberton & Lasater, Tulsa	193
Lancaster & Grimes, Tulsa	275
Landon, A. M., Independence, Kans.	9,214
Lane, E., Nowata	2,547
Lane Oil Producing Co., Chicago, Ill.	3,144
Lane & Wasson, Agts., Ardmore	4,964
Large Oil Co., Bartlesville	3,400
Larkin Oil Co., Tulsa	76
Larkin, J. J., Tulsa	542
Larkin & Reynolds, Bartlesville	2,723
Lashley, Theo. G., Boulder, Colo.	475
Lazoya Oil Co., Altoona, Pa.	1,688
Latona Oil Co., Tulsa	255
Laurel Oil & Gas Co., Tulsa	110,106
Lawson, E. B., Nowata	18,726
Lawson & Griffin, Nowata	275
Lawson & Whitehill, Nowata	1,425
Lawton Corp., Oklahoma City	2,499
Lea Drilling Co., Tulsa	676
Leahy Oil Co., Tulsa	1,333
Lebow, C. H., Tulsa	3,464
Lebow, C. H. and Ralph, Tulsa	495
Le Fever, M. M., Chautauqua, Kans.	769
Lennox Oil & Gas Co., Lennox, S. D.	446
Leonard, J. M., Joplin, Mo.	1,048
Leonard Petroleum Co., Washington, Pa.	398
Leah Bros. Oil Co., Wichita Falls, Tex.	2,505
Lewis, Emery, Jr., & Sons, Bradford, Pa.	12,729
Lewis-Clarke Petroleum Co., Oklahoma City	4,304
Lewis Oil Co., Pittsburgh, Pa.	76,377
Levant Oil Co., Ardmore	19,498
Liberty Oil & Gas Co., Warren, Pa.	2,100
Lightning Creek Oil & Gas Co., Wellsville, N. Y.	445
Lima Oil & Gas Co., Bartlesville	4,095
Lincoln Oil & Gas Co., Tulsa	2,573
Link Oil Co., The, Tulsa	26,925
Lippa, Arthur, Tulsa	208
Little Fay Oil Co., Tulsa	20,875
Livingston Oil Corp., Tulsa	14,677
Loar, W. N. & Co., Okmulgee	3,105
Local Oil Co., Warren, Pa.	1,002
Lomore Oil Co., Ardmore	2,868
Lone Star Gas Co., Dallas, Tex.	32,545
Lorraine Petroleum Corp., Tulsa	47,580
Louisiana Oil Refining Corp., Shreveport, La.	6,153
Louvain Oil Co., Bartlesville	1,524
Love, L. H., Ardmore	3,060
Lovell, Dot L., Marietta, Ohio	1,027
Lovell, J. A., Marietta, Ohio	486
Lovett, Oil Co., Nowata	1,556
Lowrie, A. L., and F. B. Barnes, Robinson, Ill.	1,457
Lowry Burns Corp., Wichita Falls, Tex.	670
Lowry Oil Corp., Wichita Falls, Tex.	3,336
Lucky Leaf Oil & Gas Co., Blackwell	1,686
Lucky Scott Oil & Gas Co., Independence, Kans.	3,096
Ludey, Chas. A., Marietta, Ohio	2,935
Ludowici-Celadon Co., Chicago, Ill.	6,449
Luengene, C. H., Tulsa	6,632
Lutner, T. R., Lawton	550
Lynch, A. E., Chelsea	1,715
Lynch & Baker, Tulsa	5,552
Lynch, C. B. & Co., Tulsa	923
Lyon, Burt W. and Mary J., Los Gatos, Cal.	698
Lyon-Leonard Oil Co., Los Gatos, Cal.	77
Lyon & McKeever, Tulsa	71
Lyons, J., Tulsa	36
Lyons, J. & L., Tulsa	3,435
Lyons Petroleum Co., Denver, Colo.	6,750
Mc	
McAllester, C. T., Sapulpa	68
McBride, W. C., Inc., St. Louis, Mo.	13,967
McClintock, H. H., et al, Bartlesville	1,945
McClintock, R. Otis, Tulsa	517
McConnell, Carol S., Tulsa	1,008
McConnell, Grace M., Oklahoma City	156
McCormick, J. A., Trustee, Muskogee	996
McCormick, Matt, Nowata	68
McCully Oil & Gas Co., Hominy	718
McDonald, B. P., Pawhuska	368
McDonald, J. H., Muskogee	324
McDonnell, John V., Tulsa	1,064
McFarlin & Chapman, Tulsa	346
McGill, H. R., and Ruth Gilbert, Tulsa	1,740
McGraw, J. J., Tulsa	2,253
McGuire, F. H., Guthrie	828
McKeon, P. G., Tulsa	919
McKee Oil & Gas Co., Ardmore	2,165
McKinely, George J., Tulsa	80
McLane Farm Oil Co., Tulsa	936
McMahon, C. L., Okmulgee	2,468
McMahon, C. L., Inc., Okmulgee	69,514
McMahon, C. L., & Kennedy, Okmulgee	26
McMahon, D. F., Tulsa	32
McMahon, J. L., Wichita Falls, Tex.	96
McMan Oil & Gas Co., Tulsa	141,758
McManus, C. T., Nowata	137
McMillan, W. J., Cleveland	331
McNutt, J. P., Morris	89
McNutt, J. P., and A. L. Davis, Morris	240
McOwen, Bernard Estate, Buffalo, N. Y.	1,741
McQueen, I. R., Oklahoma City	12,296
McSpadden, T. F., Nowata	155
M	
Mack Oil & Gas Co., Bartlesville	640
Madden & Madden, Tulsa	5,533
Magna Oil & Ref. Co., Tulsa	7,462
Magnolia Petroleum Co., Dallas, Tex.	1,754,175
Maire, F. L., Trustee, Lima, Ohio	365
Maire Bros. & Ebling, Bartlesville	2,680
Majestic Oil, Gas & Ref. Co., Du Quoin, Ill.	1,148
Mallory, J. F., and J. W. Stewart, Parkersburg, W. Va.	457
Mallory, S. L., Tulsa	1,001
Mallory, S. T., Tulsa	150
Mallory, S. T. & Co., Tulsa	250
Ma-Lou Oil Co., Pittsburgh, Pa.	2,291
Mammoth Drilling Co., Cement	336
Mancill, H. E., Bartlesville	495
Marcus, B. M., Olean, N. Y.	113
Margay Oil Corp., Tulsa	57,859
Margulies, Larry J., Tulsa	692
Marietta Oil Co., Marietta, Ohio	1,721
Mark, Clayton, Muskogee	172
Markham, J. H., Jr., Tulsa	55,348
Mariand Oil Co. of Okla., Ponca City	323,313
Marland Refining Co., Ponca City	275,260
Marshall Oil Co., Tulsa	199
Martha Oil & Gas Corp., Tulsa	66
Martin, C. G., Bristow	1,500
Martin, Emma L., Fresno, Cal.	83
Martin, J. E., Tulsa	1,352
Martin, L. J., Tulsa	426
Martin, R. B Receiver, Tulsa	786
Martin, S. A., Oil & Gas Co., Chelsea	1,131
Mason, D. B., Tulsa	14,186
Mason, Allen and Newton C. Fas-	

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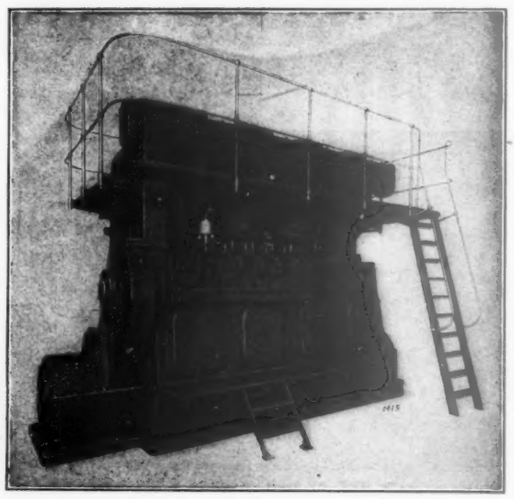

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sett, Elmira, N. Y. 165
Mason-Beauchamp Oil Co., Tulsa .. 191
Massey, Alexander, Kansas City, Mo. 572
Matteson, Chas. D., St. Paul, Minn. 567
Matthews, R. S., Tulsa 227
Maxson, E. E., Trustee, Owasso ... 6,735
Maxwell, D. G., Bartlesville 955
Maxwell, D. G., and J. W. Thompson, Bartlesville 1,245
Maxwell, D. G., et al, Bartlesville 816
May, Max, Tulsa 50
Meadors, Frank Jr., Wetumka 761
Mechling, C. A., Tulsa 294
Mechling & Berlin, Tulsa 1,245
Meridian Oil Co., Inc., Jennings, La. 205
Meridian Petroleum Corp., W. A. Goforth, Receiver, Tulsa 23,623
Merrick, F. W., Ardmore 14,966
Merrick, F. W. and R. W. Coe, Trustees, Ardmore 21,091
Merrick, Ward S., Ardmore 444
Merrick, Ward et al, Ardmore 1,457
Merrill, Harper & Beard, Hominy 247
Merryman, Roy N., Steubenville, Ohio 178
Messner & Clough, Bartlesville 663
Mexada Oil Co., Ardmore 3,446
Mickleson, D. D., Tulsa 2,098
Mid-Continent Petroleum Corp., Tulsa 923,562
Mid-Co. Petroleum Co., T. J. Ellis and Harry W. Gibson, Receivers, Tulsa 25,891
Middleton, H. B., et al, Woodsfield, Ohio 137
Mid-Kansas Oil & Gas Co., Findlay, Ohio 279,076
Mid-Kansas Oil & Gas Co., for G. R. Rhodes, Trustee, Findlay, Ohio 15,779
Midland Oil Co., Bartlesville 129,027
Midland Oil & Drilling Co., Oil City, Pa. 178
Midland Securities Co., Tulsa 9,200
Mid-Union Drilling Co., Duncan ... 325
Miller, George L., Marland 1,275
Milroy Petroleum Co., Duncan ... 998
Minnehaha Oil Co., Menasha, Wis. 625
Minnehoma Oil & Gas Co., Tulsa .. 64,028
Minshall, E. R., Tulsa 15,268
Minshall, E. R. & Co., Tulsa 6,966
Minshall Oil & Gas Co., Tulsa..... 2,966
Misener, F. D., Tulsa 16,414
Mitchell, E. D., and C. D. Jenal, Tulsa 359
Mitchell, Mark D. & Co., Independence, Kans. 810
Mitchell, Thos. H., Morris 75
Mitchell, Thos. H., Trustee, Morris 175
Mitchell & Murrow, Independence, Kans. 174
Modern Oil Co., The, New York, N. Y. 1,170
Moffitt, John, Oklahoma City 364
Mohawk Petroleum Co., Tulsa ... 3,032
Mooney & Holtzendorff, Claremore 347
Moore, Clint, Estate, Tulsa..... 14,970
Moore, Frank L., Tulsa 5,040
Moore, J. E., Owasso 15
Moore, J. Stanley, Tulsa 1,820
Monroe, J. E., Trustee, Tulsa 940
Monte Cristo Oil Co., Tulsa 466
Montezuma Oil Co., Tulsa 723
Morrison, James B., Tulsa 491
Morrison & Jackson, Sapulpa 5,179
Morton & Co., Bartlesville 26,950
Morton Oil & Gas Co., Pittsburgh, Pa. 208
Morton Petroleum Co., Bartlesville 1,694
Moseley, C. F., Bartlesville 3,190
Moseley, W. H., Bartlesville 1,450
Mosier, J. H., Trustee, Muskogee.. 87
Mountain State Oil Co., Bartlesville 34,060
Mudge Oil Co., Pittsburgh, Pa.... 17,194
Mul-Berry Oil Co., Cushing 5,103
Mullendore, Bessie, Cleveland 244
Mullendore, E. C., Cleveland 39
Mullendore, R. H., Hominy 106
Mullendore & Moore, Cleveland... 378
Murphy Oil Co. of Penna., Philadelphia, Pa. 120
Murry, John Y., Tulsa 336
Mussellem, M. S., Muskogee 354
M. T. C. Oil & Gas Co., Coffeyville, Kans. 860
Myers, C. M., Tulsa 600
Myers Oil & Gas Co., Pittsburgh, Pa. 339
Myers & Twichell, Okmulgee 5,678

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Naly, H. H., Cleveland 26
Nancy Oil Co., Sapulpa 497
National Oil & Dev. Co., Oklahoma City 10,489
National Union Oil & Gas Co., Blackwell 9,664
Neal, A. W., Bartlesville 89
Neubeck, W. L., Marietta, Ohio .. 245
Neustadt, Walter, Ardmore 7,269
New Haven Oil Co., Bartlesville... 1,006
New Pocahontas Oil & Gas Co., Oklahoma City 178
Newton & Pinson, Coweta 450
New Years Oil & Gas Co., Kensington, Md. 334
Niece, Chas. E., Tulsa 362
Night & Day Oil Co., Lawton 356
Ninety-Nine Oil Co., Tulsa 609
Noble, E. T., Okmulgee 725
Noble Oil & Gas Co., Tulsa 10,070
Nolan, D. D., Chanute, Kans. 54
Nolan-Jackson, Sapulpa 1,025
Norman, Theo. A., Palmer, Mass... 141
Northland Oil Co., Kane, Pa. 563
Northrop Oil & Gas Co., Tulsa ... 396
Norwood Oil Co., New York, N. Y. 11,583
Nowata Oil & Ref. Co., Tulsa 32,171
Number One Oil Co., N. T. Gilbert and Julius M. Mayer, Receivers, Tulsa 3,320
Nyanza Refining Co., Oklahoma City 1,672
Nyusa Oil Co., Okmulgee 1,085

O

Obins, W. G., and H. C. Weber, Bartlesville 12,144
O'Brien, P. J., Tulsa 1,137
Octo Oil Co., Bartlesville 429
Odell, C. C., Trustee, Morris 135
Offenbacher Petroleum Co., Tulsa. 38
Oglesby, Robert, Tulsa 6,165
Ohio-Osage Oil Co., Hominy 4,425
O'Hornett, Carl J., Henryetta 921
Oil State Petroleum Co., Enid 27,416
Okeh Oil & Ref. Co., Okmulgee.... 211
Okla-Texas Refining Co., Grandfield 21,290
Oklahoma Petroleum Syndicate, Okmulgee 1,340
Oklarado Oil Co., Okmulgee 718
Oklausa Oil Co., Jackson, Tenn.... 180
Oklavania Oil Co., Tulsa 17,312
Okliana Oil Co., Tulsa 7,414
Okmulgee Petroleum Corp., Okmulgee 465
Olean Petroleum Co., Bristow 205,778
Oliphant Petroleum Co., N. T. Gilbert, Receiver, Tulsa 2,123
Omega Oil Corp., Inc., Shreveport, La. 758
O'Neil Petroleum Co., Milwaukee, Wis. 130
O'Rourke, Ed, Tulsa 1,829
O'Rourke, E. W., Tulsa 1,829
O'Rourke, Tom, Tulsa 1,829
Osage-Allegheny Oil Co., Bartlesville 236
Osage-Arrow Oil Co., Ponca City.. 2,886
Osage Development Co., Bartlesville 9,155
Osage Producing & Ref. Co., Bartlesville 3,900
Oswego Petroleum Co., Tulsa 2,257
Ottawa Oil Co., Wellsville, N. Y... 274
Overton, C. H., Estate, Tulsa 2,950
Owl Oil Co., Loco 14,774
Owsley, D. L., Tulsa 1,219

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Page, Chas., Trustee, Tulsa 7,384
Page, Chas., C. W. Kingsbury and George Kinney, Sand Springs... 1,681
Painter, J. W., Newata 399
Painter & Stager, Nowata 85
Painter, Stager & Higgins, Nowata 926
Panama Oil & Gas Co., Muskogee. 964
Panhandle Refining Co., Wichita Falls, Tex. 572
Panther Oil & Dev. Co., Bartlesville 120
Papoose Oil Co., Tulsa 84,892
Papoose-Swindler, Tulsa 51,915
Paraffine Oil Co., Houston 9,625
Paragon Oil Co., Tulsa 6,024
Parmenter, L. C., Muskogee 35
Parmenter, W. L., Lima, Ohio.... 1,965
Parmenter, W. L. No. 2, Lima, Ohio 350
Parrish, W. T., Jr., Coody's Bluff. 130
Parrish Oil Co. and Reed, Nowata 2,702
Parsons, E. E., Okemah 920
Patterson, J. F., and H. F. Fair and L. B. Norton, Okmulgee.... 10,338
Patterson & Swaim, Bartlesville.. 226
Pattison Oil Co., Tulsa 6,667
Patton, H. H., Blackwell 828
Patton, W. P., Tulsa 433
Pattrell, E., Bartlesville 194
Patsy Oil Co., Ardmore 3,060
Pauline Oil & Gas Co., Oklahoma City 6,215
Pawnee Osage Oil & Gas Co., Tulsa 2,952
Paxton Oil & Gas Co. and Thedora Oil & Gas Co., Tulsa 214
Peer Oil Corp., Tulsa 2,115
Pelham Petroleum Co., Tulsa 1,759
Penmar Oil & Gas Co., Okmulgee. 8,812
Penn, Wm., Petroleum Co., Tulsa.. 151
Pennok Oil Corp., Tulsa 192,905
Penna. Oil Corp., Warren, Pa. 338
Penna. Oil & Lbr. Corp., Warren, Pa. 1,612
Penrod, Thompson, et al, Okmulgee 1,652
Pensy Oil Corp., Tulsa 2,425
Perkins, J. J., Wichita Falls, Tex. 2,217
Perrine, Irving and W. C. Kite, Oklahoma City 305
Peters, Chas. B., Tulsa 5,741
Peters-Leahy Oil Co., Tulsa..... 629
Peterson, S. F., Tulsa..... 307
Petroleum Co., The, Tulsa..... 7,454
Petroleum Co., The, and M. H. Mosier, Tulsa 17,326
Petroleum Exploration, Sistersville, W. Va. 391
Petroleum Extraction Co., New London, Conn. 1,016
Pettigrove, A. H., Dewey 1,005
Petty, C. S., Guthrie 89
Phillips Oil Co., Chelsea..... 1,488
Phillips Petroleum Co., Bartlesville 2,173,098
Phillips, Waite Co., Tulsa 358,803
Phillips & Milam, Chelsea 14,762
Pilgrim Petroleum Co., Tulsa 730
Pine, R. D., Okmulgee 425
Pine, R. D., Receiver, Okmulgee.. 327
Pine, W. B. Okmulgee..... 46,375
Pine, W. B., Trustee, Okmulgee.. 1,356
Pioneer Petroleum Co. and Arria Oil & Gas Co., Tulsa..... 7,895
Plains Petroleum Co., N. T. Gilbert Gilbert and Julius M. Mayer, Receivers, Tulsa 9,508
Plover Drilling Co., Bartlesville .. 3,592
Plumb, A. O., Depew 842
Plymouth Petroleum Co., Tulsa.. 17,499
Pollyanna Oil & Gas Co., Bagley, Minn. 3,175
Pooler Creek Oil & Gas Co., Tulsa 715
Pope & Wilson, Inc., Oklahoma City 471
Post Oak Crude Oil & Gas Co., Logan, Iowa 991
Pouder & Pomeroy, Tulsa 2,195
Powell, W. S., Tulsa 237
Powell & Morrison, Trustees, Muskogee 97
Prairie Oil & Gas Co., Independence, Kans. 1,811,622
Prairie Oil & Gas Co., Trustee, W. M. Graham Oil & Gas Co., Independence Kans. 2,723
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Probst, Geo. C., et al, Tulsa..... 244
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Producers & Refiners Corp., Denver Colo. 413,632
Pulaski Oil Co., Tulsa..... 64,099
Purdy Petroleum Co., Tulsa 1,441
Pure Oil Co., The, Columbus, Ohio 806,609
Pyramid Oil Co., The, Winchester, Ky. 12,583

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Quinlan, C. P., Tulsa 3,226
Quinlan, Felix, Tulsa 285

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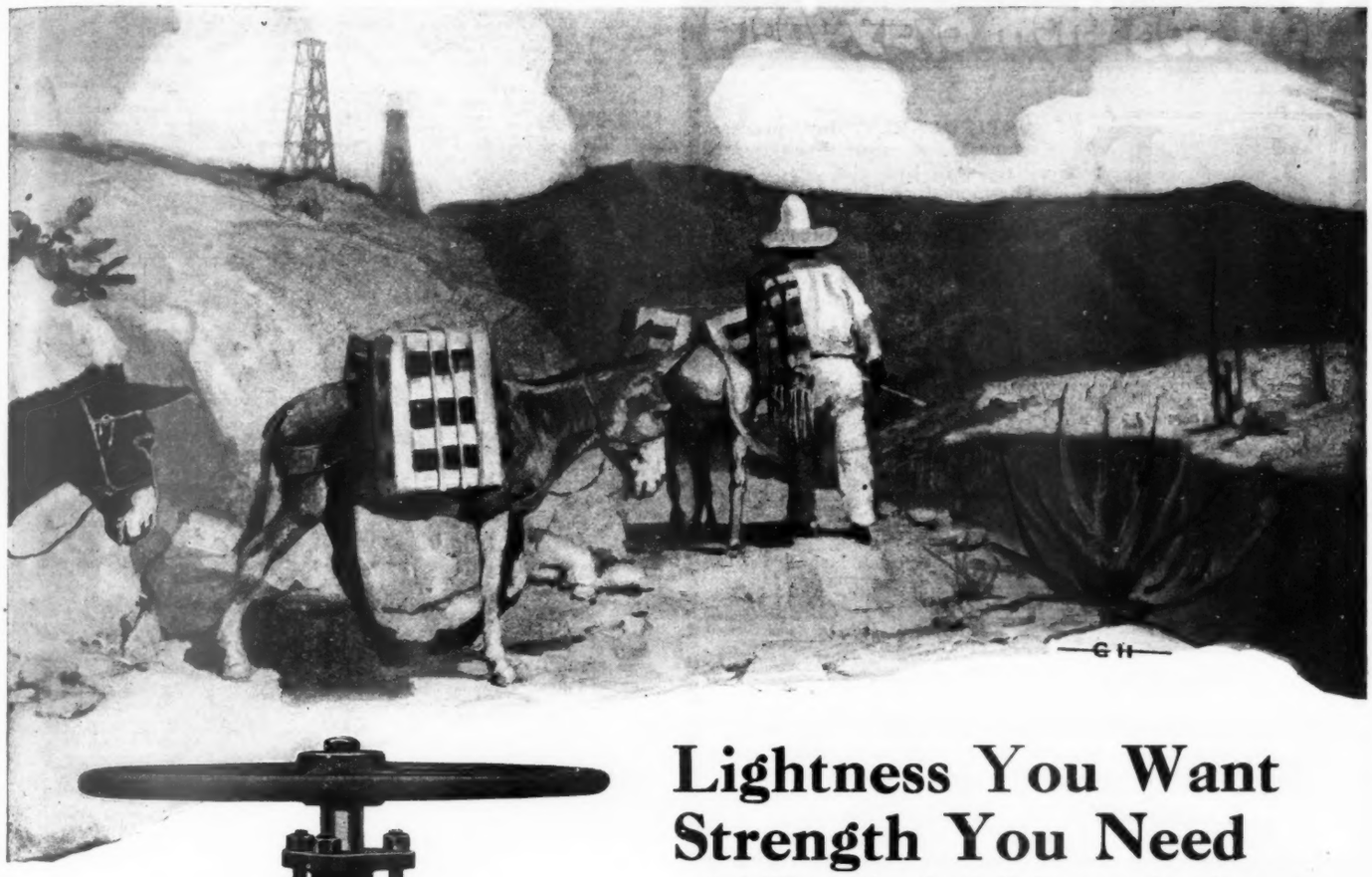
Rabbits Foot Oil Co., Davenport, Iowa 4,440
Ramsey Oil Co., Caney, Kans. ... 4,005
Ramsey, W. R. and W. E., Oklahoma City 107,305
Ranger Gulf Corp., Tulsa 10,272



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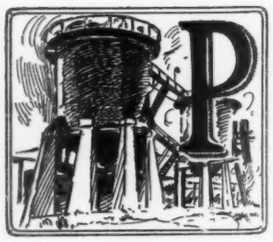

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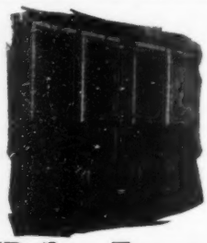

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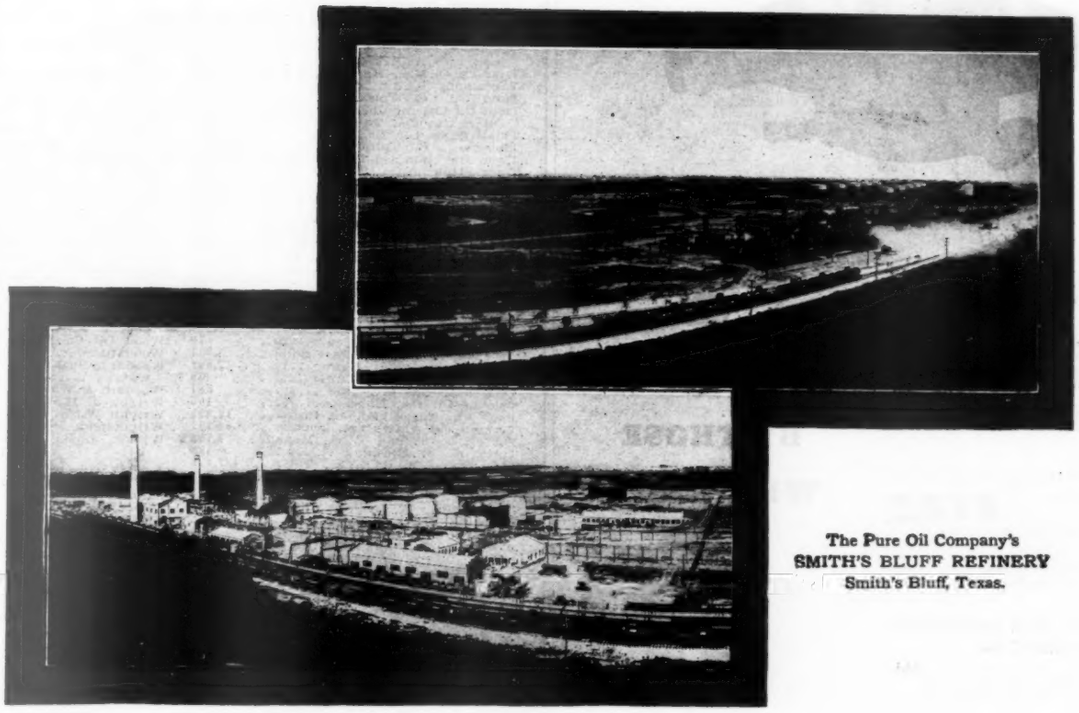
Raycomo Oil & Gas Co., Orrick, Mo.	828
Rebold, John H., Okmulgee	377
Red Bank Oil Co., Tulsa	52,635
Redoak Oil Trust, Ardmore	4,459
Red, R. D., Tulsa	732
Reed, The Byron E. Oil & Gas Co., Guthrie	122
Reed & Harmon, Nowata	2,537
Reed, H. W., Agt., Nowata	640
Reesman, S. S., Tulsa	222
Regal Oil Co., Tulsa	17,143
Regal Oil Co., Pittsburgh, Pa.	1,703
Reinhardt, C. H., Chelsea	1,303
Reliance Oil Co., The, Houston, Tex.	5,345
Reliance Oil Co. of Oklahoma, Houston, Tex.	6,616
Reno Oil Co. and E. J. Flynn, Sistersville, W. Va.	3,177
Reno Oil Co., P. B. and W. B. Flynn, Sistersville, W. Va.	182
Reno Oil Co., Sistersville, W. Va.	1,686
Republic Oil & Ref. Co., Rock Island, Ill.	329
Rex Oil & Gas Co., Winchester, Ky.	12,583
Reynolds, W. G., Okmulgee	1,099
Reynolds Oil & Gas Co., Independence, Kans.	1,218
Reynolds, W. G., Receiver, Okmulgee	597
Rice, T. E., and Frank Brewster, Talala	519
Rice Creek Producing Co., Tulsa	469
Richards, A. M., Cleveland	1,369
Richards, Geo. C., Wynona	75
Richards, H. M., Cleveland	75
Riddle, Mable L. Est., L. B. Riddle, Exec., Marietta, Ohio	50
Rielly, P. J., Delaware	116
Ridgon & Bruen, Kansas City, Mo.	4,758
Riley, J. R., Jr., Little Rock, Ark.	375
Riner, J. J., et al, Nowata	738
Ringer, J. J., Agt., Nowata	224
Ringling, John, Ardmore	3,445
Riverland, Co., Tulsa	171,262
R. & M. Oil & Gas Co., Hominy	763
Roberts, C. M., Okmulgee	1,425
Robertson, Glass & Harmon, Nowata	1,026
Robinson, E. L. and Gibson-Zahniser, Tulsa	82,716
Robson, H. J., Wichita, Kans.	225
Rockland Oil Co., Ardmore	59,870
Rogan Oil Co., Tulsa	2,008
Rood, Foster & Meloy, Bartlesville	1,502
Rose City Oil Co., Emporia, Kans.	579
Ross, E. A., Tulsa	36
Ross, C. O., Coffeyville, Kans.	1,967
Ross, Mrs. Alice, Tulsa	20
Ross, Mrs. Alice H., Exec., Tulsa	27
Roth, C. E., Independence, Kans.	4,031
Roumania Oil Co., Ardmore	175
Roxoline Petroleum Co., Oklahoma City	770
Roxana Petroleum Corp., St. Louis, Mo.	871,794
Ray, Tunie S., Okmulgee	475
Ruth Fuel Co., Barnesville	2,816
Ryan Cons. Petroleum Corp., Bartlesville	15,322
S	
Safety First Oil & Gas Co., Duncan	4,083
Salt Creek Oil Co., Alluwe	975
Samuel, J. B. and W. B. Stewart, et al, Robinson, Ill.	849
Sanders Oil & Gas Corp., Tulsa	1,395
Sankey Oil Co., Ft. Worth, Tex.	96
Sapulpa Refining Co., Denver, Colo.	18,671
Sargent, J. C., Tulsa	932
Savoy Oil Co., Tulsa	32,932
Schaffer, Danner & Snowden & McSweeney Co., New York, N. Y.	1,145
Schmermerhorn-Young Co., Minneapolis, Minn.	9,254
Schmermerhorn - Ardmore Co., Minneapolis, Minn.	42,578
Schmermerhorn Oil Co., Tulsa	9,965
Schlegal & Shreve, Tulsa	375
Schmidt, Louise & Louisa K., Sapulpa	436
Schock, Jas. J., Okmulgee	340
Schock, J. J. Oil & Gas Co., Okmulgee	748
Schoenfeld, C. H., F. J. Milliken, Geo. C. and Karl M. Probst, Tulsa	502
Schoenfeld & Milliken, C. H. Schoenfeld & Son, Barelsville	3,775
Schonwald, Dave, Blackwell	5,275
Schonwald, Dave, Receiver Cozart Oil Co., Blackwell	3,699
Schroers, H. J., Vinita	285
Scott, Eura, Los Angeles, Cal.	2,386
Scott, W. F., Kansas City, Mo.	219
Scruggs, Finley, San Antonio, Tex.	121
Seagrave, F. S., Baxter Springs, Kans.	545
Selby, J. L., Muskogee	928
Selby Oil & Gas Co., Tulsa	35,701
Sellers, H. M., Receiver, Bartlesville	599
Sellers, H. M., Bartlesville	509
Sewell, O. A., Coweta	1,225
Shaffer-Mankin Oil Co., Tulsa	1,741
Shaffer, C. B., Trustee, Chicago	466
Shaffer, C. B., Chicago	1,048
Shaffer Oil & Ref. Co., Tulsa	388,696
Shaw, R., Coweta	105
Shear-Marcus Oil Co., Bradford, Pa.	1,029
Shearer Brothers, Arkansas City, Kans.	475
Sheeders, Frank S., Pawhuska	346
Sheeders Oil & Gas Co., The, Pawhuska	1,834
Frank Sheedy, Independence, Kans.	1,926
Sheets, E. H., Copan	463
Sheets, M. E. and M., Copan	463
Sheridan Oil Co, Tulsa	20,708
Sheridan Oil Co., Trustee, Tulsa	77
Shertzer Brothers, Dewey	4,280
Shrewsbury, R. H., Est., Muskogee	300
Shuffiin, M. B., Coffeyville, Kans.	1,209
Shuler & Fischer, Tulsa	4,298
Shulthis, A. W., Est., Independence, Kans.	1,350
Sidwell Drilling Co., Sapulpa	1,159
Sidwell, J. S., Tulsa	366
Siebler, Ben, Cincinnati, Ohio	216
Siggins-Shope & Co., Coffeyville, Kans.	359
Silurian Oil Co., St. Louis, Mo.	105,281
Simms Oil Co., Dallas, Tex.	20,002
Simons, G. A., Okmulgee	15,525
Simons, I. D., Tulsa	8,495
Simpson-Fell Oil Co., Ardmore	31,465
Sinclair Oil & Gas Co., Tulsa	1,913,130
Sitrin Brothers, Tulsa	6,962
Skeeter Oil & Gas Co., Garber	606
Skelly Oil Co., Tulsa	1,125,306
Skelly, W. G., Tulsa	1,342
Skelly Oil Co. for B. C. Wirck, Tulsa	65
Skelly Oil Co for Security State Bank, Tulsa	131
Skelly Oil Co., for C. L. Hodson, Tulsa	65
Skelly Oil Co. for Basic Pet. Co., Tulsa	1,886
Skelly Oil Co. for M. Cassidy Heirs Tulsa	306
Skelly Oil Co. for R. G. Smith, Tulsa	685
Skelly Oil Co. for F. J. Downey, Tulsa	685
Skelly Oil Co. for Arnold H. Goss, Tulsa	942
Skelly Oil Co. for A. T. Ferrell, Tulsa	942
Skelton, L. S., Estate, Okmulgee	8,725
Skelton-Moore Oil Co., Bartlesville	8,616
Slick Oil Co., Tulsa	1,650
Slick, T. B., Clarion, Pa.	908,131
Sloan, E. H., Tulsa	207
Sloan, J. W., Tulsa	88
Sloan, J. W., Trustee, et al, Tulsa	4,927
Sloan, J. W., Realty Co., Tulsa	1178
Slyman, Ellis, Bristow	325
Smedley, A. W., Tulsa	550
Smith, Carl D., Tulsa	625
Smith, C. R., Est., Ardmore	8,522
Smith, C. T., Trustee, Okmulgee	2,343
Smith, C. T., Trustee, Okmulgee	2,343
Smith C. T., Trustee, Okmulgee	955
Smith, D. M., Okmulgee	971
Smith, E. T. & Co., Bartlesville	474
Smith, G. J., Tulsa	24,848
Smith-Hanlon, Inc., Tulsa	2,132
Smith, J. T. and Eugene B., Sapulpa	95
Smith-Lee Oil & Gas Co., Durant	1,884
Smith, Mrs. Mary S. and Marie S., Ardmore	22,954
Smith, Margaret L. and Chas. Robt., Jr., Ardmore	16,826
Smith, Parul W., Tulsa	596
Smith, P. C., Tulsa	1,824
Smith, Samuel Oil Co., Tulsa	338
Smith & Steinberger, Tulsa	2,365
Smith, T. K., Tulsa	4,044
Smith, Will H., Ardmore	6,937
Smoot, A. M., Mounds	122
Snowden-Danner, et al, Tulsa	2,875
Snowden & McSweeney Co., New York, N. Y.	54,782
South Bend Oil Co., Tulsa	38,985
Southern Oil & Gas Co., Coffeyville,, Kans.	2,367
Southern Oil Fields Co., Tulsa	49,485
Southwestern Oil, Gas & Coal Co., Independence, Kans.	2,111
Southwestern Petroleum Co., Tulsa	419,608
Southwestern Petroleum Co., P. H. Lods, Est., Chas. S. and Henry C. Lord, Tulsa	3,504
Southwestern Petroleum Co., Paul Lovell Est., J. A. Lovell and W. T. Hastings, Tulsa	1,281
Spanger, C. W., Tulsa	1,085
Spearry, C. F. and J. M. and John Millis, Marietta, Ohio	3,167
Speiers, A. J., Jenks	517
Spencer, Jas. T., Haskell	360
Sperata Oil Co., Bartlesville	680
Spinney, G. R., Tulsa	1,988
Sprague Oil Co., Ardmore	6,282
Spring Oil Co., Independence, Kans.	2,354
Stager, J. A., Nowata	1,044
Stager & Cornelius, Nowata	550
Stake Oil Co., Independence, Kans.	548
Staley & Wynne, Wichita Falls, Tex.	2,322
Standish Oil Co., Bartlesville	3,993
Starr, John C., Vinita	2,100
Stauffer, M. T., Agt., Tulsa	103
Stebbins Oil & Gas Co., Tulsa	1,831
Stein, P. H. and M. S. Mussellem, Muskogee	526
Steinberger, C. A., Tulsa	1680
Steinberger & Lucas, Sklatook	672
Stephens, C. S., Coffeyville	231
Sterling Gas & Oil Co., Columbus, Ohio	683
Sterling Oil & Gas Co., Tulsa	23,332
Steuben Oil Co., Tulsa	965
Stewart, C. E., Independence, Kans.	480
Steyner Oil Co., Bartlesville	18,494
Stine, E. M., Tulsa	433
Stine, J. C., Tulsa	433
Stoner Brothers, Tulsa	370
Stout, J. M., Trustee, Muskogee	1,009
Studebaker, E. H., South Bend, Ind	409
Studebaker, Ida, South Bend, Ind.	409
Straight, Preston, et al, Bartlesville	1,796
Stralem, C. L., Tulsa	661
Striker, John H., Tulsa	160
Strimple, J. A., Jonesville, Wis.	323
Sullivan, C. T., Est., Kansas City, Mo.	82
Sullivan, E. J. and W. C. Dickey, Bartlesville	1,020
Sullivan, M. J., Kansas City, Mo.	84
Summers, Jack, Muskogee	2,485
Summit Oil Co. and Sand Fork Gas & Pet. Co., Bartlesville	926
Sunbeam Pet. Co., Tulsa	1,316
Superior Oil Corp., Lexington, Ky.	45,563
Suppes, C. B., R. E., and C. E., Tulsa	8,565
Sure Oil Corp., N. T. Gilbert, Receiver, Tulsa	6,104
Surpass Petroleum Co., Tulsa	1,002
Sutherland Petroleum Co., Ardmore	13,834
Swain, Guy, Bartlesville	165
Swanson, John, Chanute, Kans., Fred Swanson, Est., Chanute, Kans., and Dan Kelly, Marietta Ohio	1,703
Swastika Oil Corp., The, Tulsa	756
Swastika Oil Co., Copan	20
Sweeney, J. F., Estate, Tulsa	116
Sweeney, J. F. & Co., Tulsa	8,310
Swindler, Jas. A. & Son, Muskogee	7,538
Swoap, J. F., Oilton	645
Sykes, C. E., Ardmore	1,809
T	
Taft Oil Co., Independence, Kans.	2,483
Tait, S. W., Montpelier, Ind.	222
Terrell Co., The, Terrell, Tex.	2,887
Terwilliger, C. H., Tulsa	1,335
Test Oil Co., Bradford, Pa.	4,458
Texas Co., The, Tulsa	1,009,325



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Smith's Bluff, Texas.

Smith's Bluff

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WARREN, PA.
HEATH, OHIO
CABIN CREEK JCT., W. VA.
MINNEAPOLIS, MINN.
CUSHING, OKLA.
ARDMORE, OKLA.
MUSKOGEE, OKLA.
SMITH'S BLUFF, TEXAS

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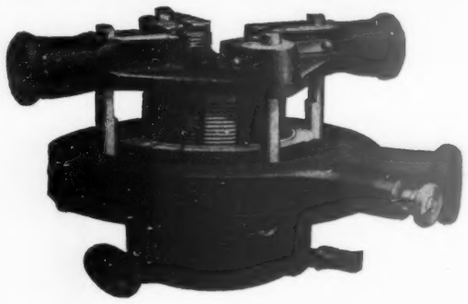
DALLAS
NEW YORK
MINNEAPOLIS
PITTSBURGH
WARREN, PA.
PHILADELPHIA, PA.
TULSA, OKLA.
CHARLESTON, W. VA.
ATLANTA, GA.
PENSACOLA, FLA.



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Texas-Okla. Inv. Co., Independence, Kans.	1,826
Texas-Pacific Coal & Oil Co., Thurber, Tex.	87,263
Texokan Prod. Co., Coffeyville, Kans.	90
Thompson Oil & Gas Co., Tulsa	6,939
Thompson, R. D., Okmulgee	314
Thompson, E. L., Tulsa	595
Thompson, J. H., Okmulgee	335
Thompson, J. N., W. M., and Roy B., Tulsa	145
Thompson, J. N., Tulsa	837
Thompson & Jordan, Special, Okmulgee	1,347
Thompson, W. M. and Roy B., Tulsa	1,272
Thompson, Welder & Neal, Cleveland	3,236
Thurvan Oil Co., Bartlesville	769
Thurmond, T. A., Ardmore	3,060
Tidal Oil Co., Tulsa	438,256
Tidal Oil Co., for Cherokee-Warren Oil & Gas Co., Tulsa	2,946
Tidal-Osage Oil Co., Tulsa	281,365
Tibbens, C. G., Tulsa	333,358
Tiger Mountain Oil Co., Tulsa	5,875
Tiger Petroleum Co., Tulsa	8,429
Titus, C. W., Tulsa	405
Titus, C. W., et al, Tulsa	47,570
Todd, E. G., Cleveland	230
Toney, Mina H., St. Louis, Mo.	258
Trainer Oil & Gas Co., Bartlesville	667
Trainer, J. E., et al, Salem, W. Va.	240
Transcontinental Oil Co., Pittsburgh, Pa.	311,341
Travis, M. R., Tulsa	3,789
Travis, Rose R., Tulsa	162
Traywick, N. E., Okmulgee	156
Trefts, John C., New York, N. Y.	697
Troy Oil & Gas Co., Sapulpa	5,065
Troy, Josie E., Muskogee	70
Tyee Oil & Gas Co., Barelsville	1,237
Tyler, D. M., et al, Dewey	2,568
Tyrrell, H. C., Tulsa	430
Tull Oil & Gas Co., Yale	587
Tuloma Oil Co., Tulsa	166
Tulsa Co., The, Oklahoma City	12,291
Turman Oil & Gas Co., Tulsa	54,757
Turner, T. E. and T. C., Mounds	4,798
Tuttle, R. M., Cushing	338
Twin State Oil Co., The, Tulsa	487,428
U	
Umburn, Gilla, Weleetka	229
Umburn, W. L., Weleetka	1,887
Union Drilling Co., Tulsa	698
Upland Oil Co., Tulsa	31
Urschel, C. F., Oklahoma City	6,176
Urschel, Flored S., Oklahoma City	6,176
U. S. Cities Corp., Tulsa	20,352
V	
Vance, S. E., Tulsa	1,085
Van Dall Brothers, Bartlesville	1,054
Vandervoort & Hoss, Platt	941
Vandivort, W. M., Nowata	626
Van Eman, G. L., Jennings	5,740
Van Horn, E., Chelsea	167
Van Horn, R. V., Trustee, Clifton Forge, Va.	515
Van Moss Oil Co., Bartlesville	1,333
Vensel, Elliott & Vensel, Tulsa	2,669
Verland Oil & Gas Co., N. T. Gilbert & Julius M. Mayer, Receivers, Tulsa	6,077
Vicmar Oil Co., Tulsa	3,913
Viersen, A. A., Okmulgee	836
Vogler, A. F., Tulsa, J. A. Lightner, Boynton, and John Swanson, Chanute, Kans	980
Vowell-Jackson, Sapulpa	7,018
W	
Wagner, A. H., Winchester, Ky.	175
Wan-shah-she Oil Co., Bartlesville	6,926
Waite, C. L., Los Angeles, Cal.	3,230
Waite, Fannie C., Los Angeles, Cal.	3,230
Walda Oil & Gas Co, Carlisle, Pa.	7,863
Walker, P. G., O. K. Eysenbach, Jr, Tulsa	428
Walker, W. L., Tulsa	75
Walker Valley Oil & Gas Co., Duncan	906
Walker Oil Co., Tulsa	2,206
Wall, F., Trustee, Bristow	600
Wall Oil Co., Tulsa	821
Wallace, F. H., Tulsa	390
Wallace, Harold, Bankrupt; Chas. S. Lynch, Receiver, Ardmore	4,564
Walsh Oil Co., The, Tulsa	20
Ward Oil & Gas Co., Tulsa	3,401
Warner-Caldwell Oil Co., Titusville, Pa.	22,682
Warren Co., Bartlesville	2,187
Warren Oil Co., St. Louis, Mo.	333
Warwick, L. H., Trustee, Nowata	344
Watchorn, Robert, Oklahoma City	6,731
Watchorn Oil & Gas Co., Oklahoma City	193,811
Watkins-McPherson Drilling Co, Healdton	873
Wayne Oil Co., Tulsa	2,363
Weart, J. Foss, Bartlesville	52
Webb, R. N., Tulsa	238
Weber, Howard No. 5, Bartlesville	2,105
Weber, Obins, Beattle, Bartlesville	625
Webster, G. W., Tulsa	4,823
Welch, F. P., Rock Island, Ill.	154
Welch Gas & Oil Co., Stillwater	430
Welder, Myrtle Est., Cleveland	83
Wells, N. D., Tulsa	621
Wellsville Oil Co., Wellsville, N. Y.	2,005
Welsh, A. L., Oklahoma City	9,875
Welsh, J. D, Kansas City, Mo.	564
Wentz Oil Corp., Ponca City	913,532
Wertzberger, D. D., Tulsa	373
West, J. H., Tulsa	6,788
Westerly Oil Co, Bartlesville	24,414
Western American Oil Co., Bartlesville	1,540
Western Natural Gas Co., Tulsa	3,875
Western Oil Corp., Tulsa	9,853
Western States Oil & Land Co., Casper, Wyo.	1,900
Westheimer & Daube, Ardmore	159,660
Westland Oil Corp., Tulsa	6,233
White Eagle Oil & Ref Co., Kansas City, Mo.	27,154
Whitehill, B. F., Tulsa	1,962
Whitehill, Howard J., Tulsa	148
Whitehill & Glass, Tulsa	972
Whitehill, Donovan & Whitehill, Tulsa	875
Whitehill, Donovan, Hayden & Whitehill, Tulsa	834
Whitehill & Smith, Tulsa	1,523
Whiteside, R. B., Duluth, Minn	194
Whittier, M. H., Tulsa	803
Wick Petroleum Co., Muskogee	266
Wickett, F. H, Shreveport, La.	3,456
Wickett, K. L., Tulsa	550
Wigton, B. L., Okmulgee	1,075
Wigton & Long, Okmulgee	58,100
Wilcox, H. E., Indianapolis, Ind.	64
Wilcox, H. F.-Pampa Oil Co., Tulsa	3,929
Wilcox, H. F. Oil & Gas Co, Tulsa	335,030
Wilcox, H. G. and E. M. Oswalt, Tulsa	95
Wilcox, Oswalt & Wilcox, Indianapolis, Ind	486
Wilhite, A., Kansas City, Mo.	80
Wilhoit, Ethel, J. Exec'x. and R. M. Jones, Trustee, Kansas City Mo.	2,449
Wilhoit, J. C No 2 Acct, Kansas City, Mo.	1,440
Wilkinson, Sam F., Trustee, Nowata	605
Wilson, Hiram C., Tulsa	12,323
Wilson, M. A., Dewey	997
Windsor Oil & Gas Co, Okmulgee	108,154
Wineland Oil Co., Boynton	626
Winemiller, J. H., Tulsa	226
Winona Oil Co. of Delaware, Tulsa	55,012
Winters, M., Independence, Kans.	512
Winters Oil Co, Bradford, Pa.	1,151
Wise, W. A., Sapulpa	76
Wise & Jackson, Sapulpa	9,340
Wiser Oil Co., Bartlesville	68,670
Withington, Margaret M., Marietta, Ohio	375
Withington Oil Co., Bartlesville	1,516
Wittmer Property Trustees, Pittsburgh, Pa.	72,363
Wolfe, F. Bristow	118
Wolfe Oil Corp., Bristow	10,532
Wolverine Petroleum Corp., St. Louis, Mo.	372,960
Womack, Geo. F., Duncan	875
Wood, T. J., Tulsa	7,104
Wood Oil Co., Tulsa	25,321
Woodard, Geo. E., Nowata	1,020
Woodard, Burkett & Woodard, Nowata	1,176
Woodard & Woodard, Nowata	766
Wright, J. H., Sapulpa	5,759
Wright, W. T, Tulsa	213
Wrigntsman Petroleum Co., Tulsa	4,825
Wyrick, J. B., Duncan	362
Y	
Young, Geo. L., Dewey	519
Z	
Zahn & Crawford, Tulsa	2,218
Zelma Oil Co, Tulsa	350
Zobar Oil Co., Tulsa	2,305
Zola Oil Co., Tulsa	22,500
SUPPLEMENTAL	
Atchison Oil & Gas Co., Atchison, Kans.	2,111
Aymer, Chas., Nowata	422
Blum Oil Co., Nowata	73
Brandes Oil Co, Nowata	126
Bridgman, F. R., London, Ohio	1,235
Bridgman Oil Co., Nowata	284
Bevins, C. T., Tulsa	127
Burke, R. J, Shawnee	1,045
Campbell, H. C., Nowata	1,693
Canada Oil Co., Nowata	500
Chason, Frank, Okmulgee	1,082
Douglass, Harvey, Att'y., Chelsea	430
Gorton Trust, The, Cement	8,904
Gray, W. B, Tulsa	230
Hayden, John F., Tulsa	914
Henryetta Oil & Gas Co., Henryetta	900
Holmes, B. F. & Co., Lyons, Kans.	630
Holmes Oil Co., The, Lyons, Kans.	133
Kaufman, Abe, Ardmore	2,345
Lane, S. A., Denver, Colo.	105
LeBosquet, Mary E., Tulsa	207
Leopold & Brett, Muskogee	227
McKay, Margaret C., Sapulpa	965
Makeever Brothers, Boston, Mass.	2,073
Marshall Oil Co., Nowata	220
Muskogee Oil Corp., Muskogee	465
New England Oil & Pipe Line Co., Boston, Mass.	35,665
Northup, C. M., Tulsa	156
Olson, A., Drumright	1,375
O'Rourk Oil Co., Tulsa	875
Otstot, Ivan, Blackwell	88
Otstot, Ray, Blackwell	88
Otstot Development Co., Blackwell	6,471
Peterson, S. F., Tulsa	144
Pluto Oil & Gas Co., Independence, Kans.	725
Posey Oil & Gas Co., Kansas City, Mo.	85
Robinson, Hubert, Trustee, H. I. Van Nostrant Interest, Claremore	1,137
Rose, J. E., Muskogee	63
Scott & Arrington, Walters	453
Short Grass Oil Co., Norton, Kans.	1,192
Smith & Daugherty, Nowata	174
Stout, W. E., Parkersburg, W. Va.	245
Thompson, Milton, Cushing	278
Tight, J. P., Arkansas City, Kans.	742
Tighe, J. P., L. L. Kroh and Ray Castle, Arkansas City, Kans.	88
Tighe-Osage Oil Corp., Arkansas City, Kans.	65
Una Lee Oil Co., Blackwell	1,743
Upp, O. E. and Vick Oil Co., Tulsa	1,942
Upp, Walker, et al, Tulsa	593
Welsh, M. P., John Welsh and C. T Daugherty, Nowata	330
Wettack, Maud, Nowata	295

Production of Crude Petroleum in Kentucky in June, 1925

County—	Bbls.
Allen	27,479.39
Barren	19,803.18
Bath	752.71
Clinton	1,146.50
Daviess	958.48
Elliott	715.96
Estill	34,474.91
Floyd	387.20
Johnson	83,616.45
Lawrence	55,318.31
Hancock	2,503.15
Hopkins	724.80
Lee	148,830.32
Magoffin	71,962.72
Monroe	3,052.48
Morgan	652.94
McCreary	354.87
Ohio	15,019.69
Owsley	1,286.05
Powell	17,520.14
Simpson	985.79
Warren	43,564.35
Wayne	12,911.23
Wolfe	4,107.04
Cumberland	3,721.98
Total	550,850.66
Daily average	18,362

The WRIGHT Brothers
of Dayton, Ohio
gave to the world
the first perfected
flying machine

The
WRIGHT Brothers
of Lisbon, Ohio
gave to the industrial world
the first

Highly Perfected
Chain Hoist

The hoist with at least twenty-one
scientific features—21 reasons
why you should specify a

WRIGHT
IMPROVED HIGH SPEED HOIST

The best jobbers can supply you.

Approved for Field and Refinery Service

Stanley

Solid Woven Cotton Belting

A "Home-Stretch" Bet

It is after five years on the job that the real story of belts is told. They all look good at the start—like a horse race—and when they come down the home stretch, would be a fine time to lay your money. But it isn't done that way.

However, STANLEY has been for over 9 years on one power we have record of, and this time next year it will be ten years. So if you lay your money on STANLEY it's pretty nearly a "home stretch" bet. Write, wire, 'phone for delivery from the following stocks:

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Tulsa
Phone Dial 2-7283

Chicago
On permanent display at Tulsa Industrial Exhibition

STANLEY BELTING
MADE IN SCOTLAND

Toronto
Pacific Coast Rubber Co.
216 Mission St.,
San Francisco, Cal.
500 E. 3rd St.,
Los Angeles, Calif.
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SALES OFFICES:

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Kansas City—Mutual Bldg.
Columbia, S. C.—1433 Main St.
Seattle, Washington.
Los Angeles—Union Bank Bldg.

DEMAND FOR OIL AND GAS PIPE AND TUBING CONTINUES VERY HEAVY

By B. E. V. Luty

PITTSBURGH, Pa., Aug. 17.—Altogether, there has been a remarkable run of line pipe orders in the past few weeks, and there is some more business still pending. Individual orders are not especially conspicuous, there having been several a week that ran into fair sized tonnages. Gas lines predominate over oil lines in point of tonnage, which has been the usual experience in recent years.

The opinion recently expressed that oil well material was chiefly and almost wholly responsible for the great activity of the lap weld departments of the pipe mills, must now be modified. Line pipe is doing its full share, perhaps more than its usual share. The demand for oil and gas well goods is, however, very heavy, chiefly in casing, drill pipe and tubing. Tubing, on account of its thickness, runs well into tonnage relative to its size, but as it represents the small sizes made by lap weld furnaces, casing and line pipe representing the large sizes, it does not make so much for tonnage output of the pipe mills.

Running to Capacity

The lap weld departments at the pipe mills are full of orders. They have been running at capacity for weeks past, since some time in June, and they seem at the present time to be scheduled up solidly for a month ahead, with other business strung out beyond the month.

Demand for merchant pipe has continued to increase, but it increases slowly. The pipe mills do not seem to be entirely satisfied with the merchant pipe demand, but as their butt weld departments are going at about 80 per cent it would seem they ought to be satisfied. No other finishing branch of the steel trade is, so far as can be seen, running at as much as 80 per cent except the tin plate mills, and as 80 per cent butt weld and practically 100 per cent lap weld means more than 90 per cent, in tonnage, for pipe mills as a whole, the pipe mills are in very good business shape.

The rest of the steel trade has been picking up a trifle since early in July. Some observers appear to be disappointed that business has not been improving more rapidly but this must be because they do not realize that the steel industry did not get down to a really low point, hence has correspondingly less room for improvement. Production of steel ingots, the basis material, was 3,087,590 tons in July, making July the low month of the year, but the decrease from June was only 3.7 per cent. The July production was no less than 65 per cent greater than production in July, 1924. After July there was a very sharp increase, but a similar increase could not now be expected, when the starting point is so much higher. August is expected to show some increase, which, if kept up, would leave July as the low month of the year, yet the July production rate was 6 per cent above the average rate in the whole six years between the war and the beginning of this year.

Market Steady

The Steel Corp.'s unfilled obligations decreased 170,991 tons during July, against the 339,342 tons decrease shown for June. The lessening of the decrease from June to July was due approximately one-third to shipments decreasing and approximately two-thirds to bookings increasing, so that in the main the trend was favorable.

While at no time have there been any important irregularities in prices of pipe and oil country goods, and the market is naturally in very stiff position at present, there has been softening and declines in various other steel products since about the middle of February. It looks now as if this softening had stopped. Of late the market in all steel lines has been quite steady. In some lines there is irregularly or shading, but there is not as much as 30 or 60 days ago. Mills may not be able to get prices up to any extent, but if they are able to hold the present level they will do fairly well, and quite well if they have a good operating rate.

Pig iron continues dull but firm. Coke is stiffening on account of the prospective anthracite suspension September 1. Scrap has advanced.

Excursion Rates to Tulsa Granted for This Year's Oil Show

Visitors from all parts of the United States to the third annual International Petroleum Exposition and Congress, which will be held in Tulsa from October 1 to 10, will be able to make the trip on special excursion rates, O. C. Staples, chairman of the transportation committee of the Exposition, declared following the receipt of a notice that the Southwestern Passenger Agents Association had passed favorably on the reduced rates from the Southwestern district and had recommended this same schedule to the other associations over the United States.

J. W. Nourse, general passenger agent for the Frisco Railroad at St. Louis, notified the Exposition management of the reduction of rates. The letter stated that the Southwest division had agreed upon the rates and also that they will make a recommendation to the other passenger agents associations of the country for reduced rates to the oil congress. According to General Manager E. F. McIntyre, of the Exposition, this practically assures, as the other associations usually follow the recommendations and have done so in the past.

The rates for the Southwest division will be the same as last year. In Oklahoma there will be an open rate of fare and one-third. Likewise from points in Missouri, Arkansas and Kansas, where the one-way fare is $10 or less, the rate of fare and one-third is obtainable. From points in Texas where the fare is $11.05 or less, this same fare is in effect.

The remainder of the Southwest territory, including the other points in Missouri, Arkansas, Kansas, Texas and Louisiana, will be given a rate of fare and a half for the round trip, which will be granted on the certificate plan. A similar rate, also on the certificate plan, will be recommended to the other passenger agencies for adoption in their territories. The Southwest territory dates for sale of tickets is from September 28 to October 8. These tickets will be good for return until October 12.

The certificate plan provides that the passenger pays for a full round trip ticket at his home office. There is a certificate attached which, when presented at the Tulsa office, entitles him to a return of the half-fare, making an actual rate of fare and one-half. This system has been used in the past and has worked out perfectly satisfactorily.

The prospect of special trains from the larger cities in the Mid-Continent Field is made brighter by the definite announcement that the rates will be available. The special trains from Wichita, Kans., and El Dorado, Ark., last year were a great success, and the ball has been set rolling with the announcement that San Antonio and Southwest Texas are arranging for special trains to bring 1,000 visitors to the exposition.

ROXANA SPREADS OUT

The Roxana Petroleum Corp. has established three separate divisional offices in the Southwest. They are located at Tulsa, Dallas and Houston. A. T. Schwennessen is in charge of the Coastal geological department with Wallie Merritt superintendent of the land department. Dr. Van Holst Pellekaan is located at Dallas as chief geologist with supervision over the divisional offices.

Past, Present and Future

Our experience of thirty-five [35] years can be successfully applied to your problems of the present, so that you may count on fewer drilling troubles in the future.

There is no better steel made than

DIAMOND "H"

Specify it and get the best

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Forge and Knife Co.

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PATRICK CARBON
for Diamond Core Drilling

Our many years' success is founded on the Reliability of our grading the best carbon mined. This results in noticeable economy in drilling.

R. S. PATRICK
Duluth, Minnesota, U.S.A.
Cable Address, "Exploring" Duluth

The NUTTALL
TYPE "HD"
OIL WELL PUMP
GEAR UNIT

Oil ring sleeve bearing is provided on pinion shaft and Hyatt roller bearings on main gear shaft.

R. D. NUTTALL COMPANY
PITTSBURGH PENNSYLVANIA

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2183 Conway Bldg.
In Canada Lyman Tube & Supply Co.,
Montreal, Toronto

Nuttall

GREATEST OIL REFINERY IN GREAT BRITAIN

(Continued from Page 72)

chemistry of the hypochlorite process is extremely simple, for the sulphur compounds are merely oxidized to sulphones, sulphoxides, and sulphonic acids, and these oxidation products are readily soluble in alkali, or can be separated by distillation.

Redistillation Process

The once-run distillate is now ready to be distilled into gasoline and kerosene The redistillation plant differs from that used for primary distillation in that steam passing through coils, fitted internally in the stills, is utilized, providing the necessary heat for distillation. The most modern bench at Llandarcy consists of 18 stills, 40 feet in length by 12 feet in diameter, steam heated and arranged in groups of either intermittent or continuous distillation.

The complementary plant here, namely dephlegmators, columns, analysers, etc., is more elaborate than in the case of units designed for primary distillation. This arrangement enables the various products from the redistillation to be segregated as desired. The full capacity of this particular unit exeeds 600,000 gallons per day, and is capable of producing over 1,000 tons per day of BP spirit.

The gasoline which is distilled from the hypochlorite-treated once-run distillate requires no further refining. It amounts to rather more than 25 per cent of the crude oil.

By making a suitable "cut" during the distillation of once-run distillate, previously treated with the usual quantity of sodium hypochlorite, white spirit having a specific gravity and distillation range to satisfy the usual specifications can be obtained.

After removal of the petrol fraction from the light distillate, which has been treated with hypochlorite, the residue in the still is kerosene with an average specific gravity of .800, a flash-point of 120° F., and a pale yellow colour. At this stage of refining the sulphur content of the crude kerosene, which represents 15 per cent of the crude oil, averages 15 per cent, and this is materially reduced in order to produce a superfine marketable product. The most efficient means of reducing the sulphur content and removing the coloring matter in one operation consists of a simple filtration through bauxite.

Bauxite Treatment

The bauxite treatment is a treatment whereby oils which it is desired to decolorize or purify to a standard specification are mechanically filtered, the medium employed being bauxite, the well-known ore of aluminum (Al_2O_3).

The "lump" bauxite is ground in a special type of gyratory crusher, screened and graded to obtain bauxite of such a mesh as has been found in practice to give the most efficient results. It is then roasted in a furnace to drive off external moisture, water of combination, and to render it "nascent" for the filtering operation. The prepared bauxite is then charged into the filters, and the oil to be treated is allowed to flow through at a rate based on gallons of oil to pounds of bauxite, which has been determined by experience to be suitable for the particular oil to be treated and the extent of treatment required.

After filtration the filters are allowed to drain, and extraction of the residual oil in the bauxite is effected by steam. The prolonged use of superheated steam followed by air will effectively extract the whole of the residual oil and also revivify the bauxite for further use. This is essentially a physical extraction, and the extent to which it is carried obviously depends on the cost of steam and the value of the recovered oil. The bauxite is then returned to the furnaces, where, subjected to a temperature of about 600° C. under oxidizing conditions, all traces of oil and deletrious matter collected from the oil are burnt off, and the bauxite regenerated for return to the filters, which may be of a capacity of 50,000 pounds of bauxite. It is found necessary to add a small amount of made-up bauxite on each cycle to replace "fines" produced and other losses.

Two types of furnace are at present in use—the rotary or cement kiln, and a variation of the Herreschoff, or wedge furnace. The total capacity of these (five in number) amounts to 260 tons of bauxite a day. The handling of this amount of material daily is an operation of some magnitude, and resembles in many respects the surface operations of a small colliery.

Other materials, such as fullers' earth and floridin, may be employed in such a process, but bauxite is considered by us to be the most efficient for the purpose. It is essential to have material regular in texture and homogeneous in structure, and from practical experience it has been found that the bauxite from the vast deposits in India is superior in these respects.

The treatment given at Llandarcy results in the sulphur ontent being reduced to rather less than 1 per cent, whilst a color superior to water white is obtained. In this process the roasted bauxite, which is by no means completely anhydrous, acts as a surface absorbent and absorption both of color and of these derivatives following the Freundlich law. Furthermore, by refining in this manner a kerosene is produced which is stable in color and odor. The finished kerosene has a very pleasant odor, resembling that usually associated with white spirit, and quite unlike the ordinary "paraffin smell of American lamp oils.

A special cut may be made in the kerosene from which long-time burning oil or lighthouse oil is prepared.

Persian fuel oil (64 per cent residue) from the crude oil distillation has a specific gravity in the neighborhood of .897. It has a sulphur content of about 1.33 per ent and a flash-point of over 175° F., thus conforming with the Admiralty specification. Its water and adventitious matter content is of the order of 1 per cent, and its hard asphalt (insoluble in petroleum ether) averages 1.5 per cent. Its low asphalt and sulphur content and high calorific value make this oil a very valuable fuel.

That quantity of 64 per cent residue from the continuous topping stills, which is not destined for use as fuel oil, is further reduced in the residue bench, which consists of a series of six fire-heated stills.

Production of Kerosene

The first product obtained is heavy kerosene, which may be employed to supplement the once-run distillate residue, and also as a source of long-time burning and lighthouse oils. This kerosene fraction constitutes 25 per cent of the fuel oil, or 16 per cent of the crude; its specific gravity is about .828, its flash-point 120° F., and its sulphur content 5 per cent. When treated with liquid sulphur dioxide, an extract is obtained which contains a high concentration of aromatic hydrocarbons.

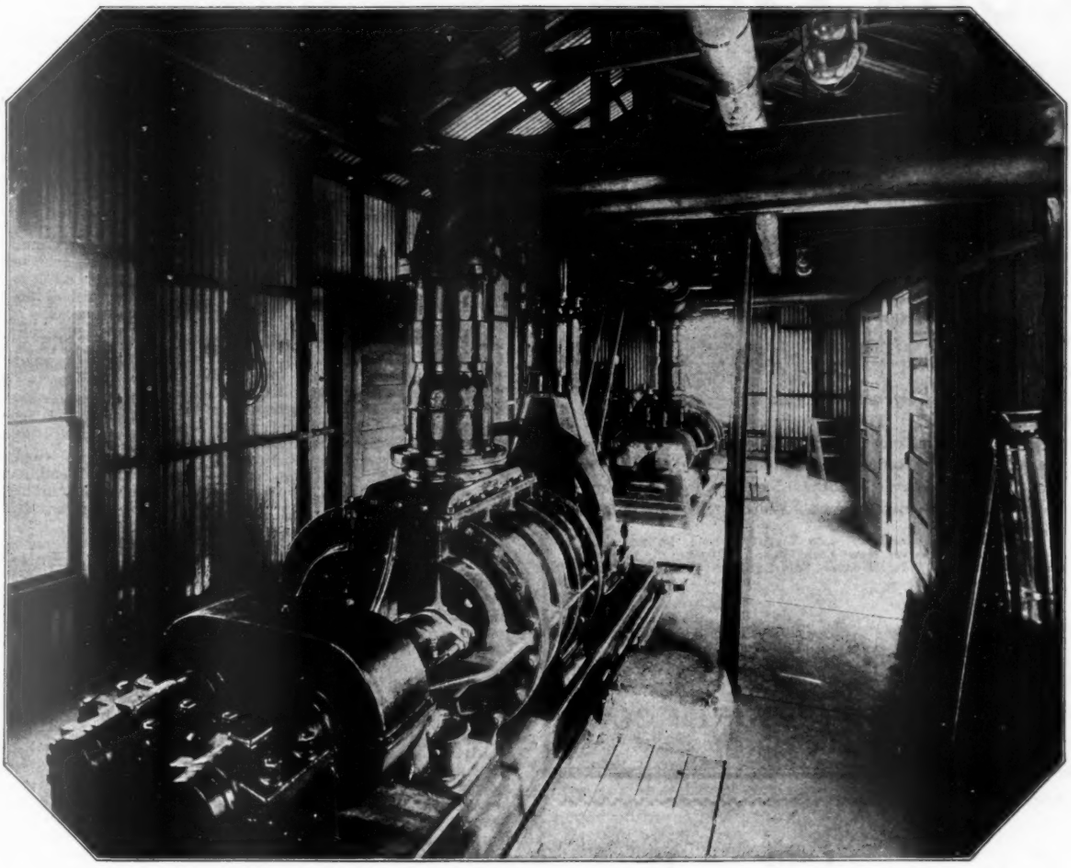
The next 12 per cent of the fuel oil is the gas oil fraction. Its specific gravity is .850 to .865, its flash-point 170-200° F., and its sulphur content is of the order of 1 per cent. It may be used as a fuel for oil engines and for carburetting water gas, and is also very suitable as cracking stock.

The sulphur dioxide treatment is the treatment used for the refining of the heavy distillates derived from the fuel oil. It is known as the Edeleanu process, and is based on the property possessed by liquid SO_2 of dissolving unsaturated hydrocarbons present in petroleum distillates. The distillate to be treated is agitated at a low temperature with the pre-determined quantity of SO_2, the latter dissolving the unsaturated hydrocarbons, but leaving the paraffins and naphthenes. On account of the difference in specific gravity when agitation ceases the two liquids separate immediately in clearly defined layers.

The plant is very similar to an ordinary ice-making plant, utilizing SO_2 as the refrigerating medium. The cycle of operations is as follows:

The distillate to be treated is thoroughly dried to remove all traces of moisture, and is passed through a cooler or exchanger, where it is cooled down to

ROOTS



Advantages Gained by Use of Roots Gas Pumps

Roots Positive-Pressure Rotary Gas Pumps or exhausters are ideal for gathering uncondensed vapors. They can handle large volumes of gas, hold the run down lines under a vacuum of one and four inches of water, and discharge at a pressure high enough to force the gas through the sulphur scrubbers.

The Huntoon Governor will regulate pressure accurately. At any change in refinery conditions—such as variation in the production of gas—the pump will automatically decrease or increase its speed to keep the vacuum on the gathering lines constant. Thus little attention is required and constant service guaranteed.

Roots Rotary Gas Pumps will give constant service 24 hours a day without danger of shut-down. One refinery reported only one delay in eight years time due to accumulation of sulphur in the walls of the Pump.

Pump House at the Comar Oil Co., Tonkawa, Okla., showing Roots Rotary Gas Pumps in service.

Write for Bulletin 118 of Engineering Tables. It is very valuable to every refinery engineer.

Bulletin 108 tells you more. Write for it.

The P. H. & F. M. ROOTS CO.

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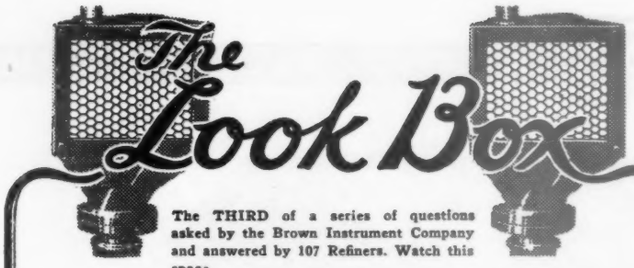
NEW YORK
120 Liberty Street

1576 Union Trust Bldg., Cleveland



The THIRD of a series of questions asked by the Brown Instrument Company and answered by 107 Refiners. Watch this space.

"Are your stills regulated by the actual temperatures recorded?"

—with Thermometers

Refiners do not depend upon the absolute accuracy of their Recording Thermometers apparently for only 33% answered "yes" to this question. This is probably because the instrument is made for continuous rugged service and simplicity first, with accuracy second.

—with Pyrometers

86% of the Refiners using Pyrometers guide their stills by the actual temperature reading. The Pyrometer is essentially a more exact temperature measuring instrument than the Thermometer, and therefore the Refiner places more confidence in it. Next time we shall show how the other Refiners use the temperatures as shown on the instruments. Watch this column.

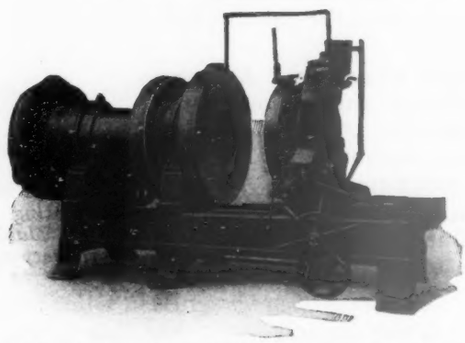
Address—The Brown Instrument Company, 4536 Wayne Avenue, Philadelphia, Pa., or one of our district offices in New York, Boston, Pittsburgh, Detroit, Chicago, Birmingham, Houston, Tulsa, Denver, Salt Lake City, San Francisco, Los Angeles or Montreal.

Brown Instruments

TEMPERATURE : PRESSURE : CO_2

Pipe Cutting and Threading Machinery

Sizes Up To and Including 24"



Belt, Motor or Steam Engine Driven, also Equipped for Gasoline Engine Drive

All the important things about a Pipe Machine are here incorporated.

This equipment produces the highest quality of work and does so in a minimum of time and at a low operating cost.

The Verdict of Users in This Country and Abroad.

THE COX & SONS COMPANY
Bridgeton, N. J.
Business Established 1868

10° C. The required quantity of SO_2 gas compressed into liquid form and also cooled to 10° C. is passed with the distillate into the mixing vessels where the separation, takes place. The separated liquids are run off into evaporating vessels, where the SO_2 is removed and returned into the cycle. The final traces of SO_2 are removed by a soda wash or a special dry air process. The necessary cold or heat exchanging vessels contingent on this procedure are included. The plant at Llandarcy is capable at the present time of dealing with 50,000 gallons of distillate per day.

Engineering Details

It will be fully appreciated that more than ordinary care is necessary in the construction of the engineering details of this plant. Successful operation depends almost entirely on the effective exclusion of even small traces of water from the plant. Dry SO_2 is inactive, but with water added it is most corrosive. Special arrangements are incorporated to ensure both the distillate and the SO_2 being perfectly moisture-free.

All valves are hydraulically operated from a central control board. The installation includes a plant for manufacturing 30 cwt. of SO_2 per day from sulphur. In this plant are incorporated by special precautions mentioned above for effectively drying the SO_2 produced. A plant of this sort may be used for the refining of almost all petroleum distillates, and the process is widely employed for the provision of a high-class burning oil.

After the removal of heavy kerosene, gas oil, etc., the residue, containing lubricating oil, wax and pitch, is further distilled down to pitch in pitch stills. The pitch residue is run into coolers for subsequent barreling or running into pitch ponds.

The distillate from these pitch stills consists of heavy oil and paraffin substantially asphalt-free. This is transferred to the paraffin extraction plant. The removal of the paraffin is effected by cooling the oil to a temperature at which the wax becomes solid and expressing the oil from the solid wax by means of filter presses. The cooling may be effected in stages depending on the quantity of wax in the oil, and the extent to which the expressed oil is to be free from wax.

The type of cooler employed, known as the Thomson cooler, consists of a C. I. cylinder mounted vertically and fitted with a shaft, on which are mounted scrapers to keep the cooling oil in motion and also to remove wax which is commencing to solidify. Cold brine is circulated in a C. I. jacket surrounding the cooler. The oil is pumped at a definite rate at a pressure of 150 pounds per square inch through the coolers into the filter presses.

Wax Presses

The presses are built up of a number of C. I. plates covered with special cloths forming a series of chambers in which the oil from semi-solid wax is expressed. The oil filters through the cloths and passes into a receiver through an interchanger, where incoming oil is cooled by the wax-free filtrate passing out. The filtering area required can only be determined by small-scale experiments on the oil to be filtered. This wax-free filtrate is, broadly speaking, a lubricating oil base, and as such is passed on to the lubricating oil section for further distillation and treatment.

The solid wax or scale, on dismantling the press, is transported by screw conveyor to hydraulic presses, where, wrapped in special cloths, it is subjected to pressure, approximating 2,000 to 3,000 pounds per square inch, which effectively removes all oil from the scale. The scale is then liquefied by steam, and passed on for final refining by hypochlorite and soda washes, and is ultimately filtered through bauxite. When fully refined, the wax has a specific gravity of .914, a sulphur content of less than .01 per cent. a melting-point of 130 degrees to 150 degrees Fahrenheit, and a color equal to .6 yellow in the 18-inch Lovibond cell. The yield of high-melting finished wax is 6.2 per cent of the crude oil. This fraction of the crude oil finds a ready market for candle-making. Softer waxes are used for insulation, match tipping, paper waterproofing and many other purposes.

The filtrate blue oil constitutes a lubricating oil base which, on distillation, yields about 50 per cent of its volume of gas oil. The fraction between 50 per cent and 90 per cent gives light and medium spindle and engine oils, while a 90 per cent to 100 per cent residuum after filtration for color yields an oil especially suitable for water-cooled internal combustion engines. Lubricating oil suitable for air cooled internal combustion engines can be obtained by reducing to a 95 to 100 per cent residue.

By distilling the crude down to 6 or 7 per cent of residuum a further amount of amorphous distillate is produced, containing, as the name implies, amorphous paraffin and heavy lubricating oil. If this product is diluted with petrol, decolorized by filtration, chilled and centrifuged in a centrifuge machine, a separation is achieved from which a very high class oil of low set-point is obtained. From this oil the whole range of heavy lubricating oils can be manufactured.

The heavy oil and paraffin fraction may also serve as the source of superfine chemical products, such as paraffinum liquidum, whilst petroleum jelly is obtainable from the residue. Both of these products may readily be made to pass the recognized specifications.

Steam Service

The essential general services for petroleum refining are: Steam, electric power, water, drainage, and fire appliances.

The requirements of steam for refining call for quantities of steam at various points over a wide area. A careful consideration of all the factors has resulted in a decision in favor of a central steam-generating battery, with efficiently lagged distributing means, as compared to individual small batteries. Special attention has been given to the distributing steam mains, and the losses in distribution in actual practice compare very favorably with the estimated losses.

The central boiler battery consists of six water-tube boilers, each with an evaporative capacity of 25,000 pounds per hour, and two with a capacity of 50,000 pounds per hour. Coal handling and conveyor plant are included for burning coal on mechanical stokers. The pressure pumps and incidental plant for oil firing are included in the permanent installation, and the change over to oil firing involves only the withdrawal of the mechanical stokers and the installation of pressure burners.

The requirements of steam and electric power in refining enable maximum efficiency and economy to be obtained by the use of pass-out or back-pressure turbines. In colliery equipments and other installations where exhaust steam from winding engines, etc., is available, it is common practice to collect the exhaust steam and utilize it through an accumulator in mixed-pressure turbines for the production of electrical energy. In this instance the procedure is reversed. Steam at 180 pounds pressure 200 degrees Fahrenheit superheat is passed into the turbines, which are capable of functioning as:

(a) Simple H.P. machines exhausting into a condenser.

(b) Pass-out turbines passing out a certain quantity of steam for process use at 40 pounds pressure, the balance exhausting into condenser.

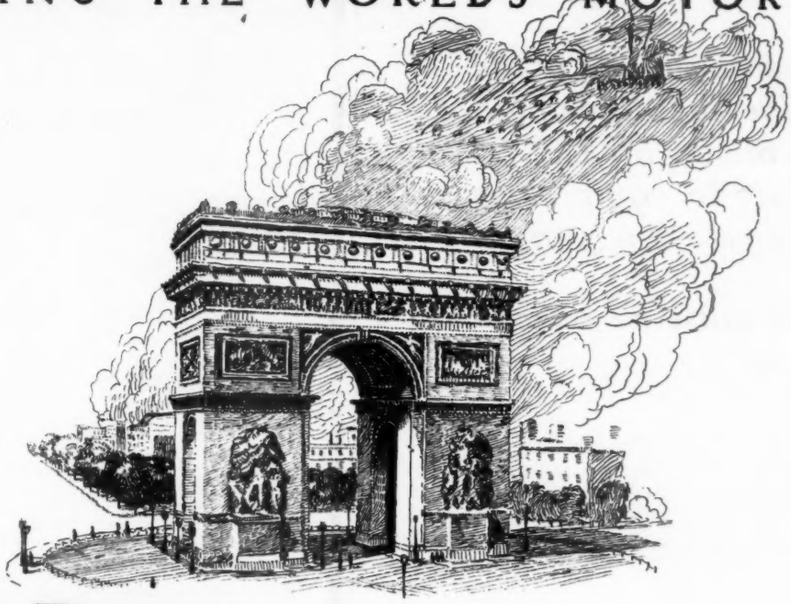
(c) Back-pressure machines exhausting the whole of the steam at 40 pounds pressure.

Converted Into Electricity

The primary energy in the steam in each case is converted into electricity. Refinery requirements of steam or electric power are not so definite as, for example, a paper mill; but with the flexibility outlined above the maximum economy and efficiency for any condition is provided.

The operation is automatic and similar to the control of a mixed-pressure turbine. In the latter case the automatic control always gives preference to the L. P. steam, H.P. steam only being admitted when L.P. supply is exhausted. In the case under review, should the L.P. steam requirement exceed that pro-

NATURALIZING THE WORLD'S MOTOR FUEL



Gay Paree . . . . .

The week-end rendezvous of Europe — where a cosmopolitan people, with verve and spontaneity, maintain a continuous fashion parade upon the walks and boulevards—that is Paris. There you will find the same exuberant taste expressed in the motor cars that is shown in the clothes and the life of a people already famous for their artistic accomplishments. : :

The Renault—the Daimler—the Mercedes are highly sensitive bits of mechanical perfection and deserve a motor fuel of extra quality. This is provided by American export gasoline, which contains a percentage of NATURAL GASOLINE, to give it the higher gravity and extra quality required. : : : : : : : :

American exporters find NATURAL GASOLINE an indispensable and economical factor in maintaining the extra quality required because, if they were limited to gasoline refined straight from crude oil, they would not be able to meet, both the foreign and domestic demands without greatly increasing the price. : : : : :

NATURAL GASOLINE takes its logical place, then, in the economics of gasoline manufacture and flows, in ever increasing quantity, around the world "Naturalizing the World's Motor Fuel".

CHESTNUT & SMITH CORPORATION

TULSA, OKLAHOMA

113,227,465 gallons of gasoline were exported to France during the first five : : months of the year. : :

For years several of the big pipe lines have paid more money for McKim Gaskets to equip their booster station pumps.

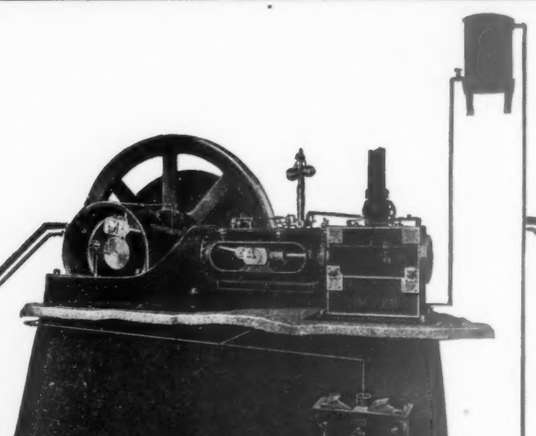
There must be a good reason.

McKim Metallic-Asbestos Gaskets for hard service. Pressure, heat and chemical proof.

Catalog Number 17 on Request

McCORD RADIATOR & MFG. CO.
Gasket Division
Detroit, Michigan

Makers of McCord Force Feed Lubricators



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Designed to Meet Your Requirements

While Standard Burt Filters come in models to meet almost every condition, our engineering department is always glad to design special oil-filtering systems to meet particular conditions. As the largest and most experienced department of its kind, it is particularly well fitted to recommend a method of reclaiming your oils that will effect maximum savings at minimum cost.

Your inquiry will entail no obligation—but may lead to a 50% to 90% saving in lubricating bills.

THE BURT MANUFACTURING CO.
Pioneer Oil Filter Manufacturers
929 S. High St. Akron, Ohio

duced by the equivalent electrical load, then, and then only, will steam pass from the H.P. main through a reducing valve into the L.P. supply. The condensers are of the jet type, with rotary air and extraction pumps, and are capable of dealing with the whole of the steam when the unit is functioning as a pure H.P. turbine.

The generation plant consists of three units, each of 2,500 kw. capacity, generating three-phase energy, 3,300 volts, 50 cycles at 3,000 revolutions per minute. The alternators are of the standard type, the ventilation being provided through a wet-air filter. The switch gear is of the standard cubicle type, cubicles being built up of artificial stone, with switches mechanically operated from a control board.

Energy is transmitted by aerial lines to various substations, where it is transformed to 440 volts for general use. A number of the larger motors operate at 3,300 volts. It is obvious with steam and electric power provided at a low cost, as outlined above, that the use of the latter will be extended throughout the refinery.

The handling and transport of oil involves the use of pumps, and centrifugal pumps direct coupled to electric motors provide units which are economic in capital and running costs, and which have considerable flexibility in operation. There are upwards of 200 pumping units at Llandarcy, pumping oil and water and varying in size from 500 h.p. downwards.

There is here, as in the case of turbines, another connecting link between the mining industry and petroleum refining, as the pumps in use are built up on the experience gained on the installations employed in unwatering mines.

The works has its own fire brigade, consisting of a fire master and a nucleus of firemen, supplemented by shift-men who have been trained in fire service. This arrangement provides a full brigade on continuous duty.

The water-distributing mains are provided with liberal hydrant connections. Water is not effective in extinguishing oil fires, but it is valuable for preventing a fire spreading, e.g., should the oil in one of a group of tanks become ignited, the first duty is to play water on the remaining tanks in the immediate vicinity. In the majority of cases this effectively prevents the fire spreading. Sand, Pyrene, and other extinguishers, are also liberally distributed over the works, with the main principle in view of extinguishing outbreaks in the incipient stage.

In the original layout of the refinery the various units of plant are located so as to provide a safety space between sections.

Transport System

The transport of crude oil into the refinery and of the products away from it requires elaborate arrangements to deal with the large quantities involved. In the Queen's Dock, Swansea, which is practically reserved for petroleum loading and discharging, there are three berths, each capable of accommodating a tanker of 10,000 tons deadweight. These vessels, which are 450 feet long, with 57 feet of beam, and a draught of 26 feet 6 inches, have been practically standardized by the British Tanker Co., which is, in effect, the marine transport section of the Anglo-Persian Oil Co. These berths will obviously also accommodate smaller vessels of 5,000 tons and 1,500-ton coastal vessels which are included in the fleet.

Taking the case of crude oil coming into the works, the vessels discharge at a rate of 900 tons per hour into shore tanks. This ensures a quick "turn round" of the tankers. From these shore tanks, known as the transit site, the oil is pumped by electrically-operated centrifugal pumps to the main refinery tank farm, where it is stored and is available for refining.

In the case of the outgoing refined products, these are kept in storage at the main site, and are pumped down at a leisurely rate into tanks at the transit site, where they are loaded into the receiving vessels up to a maximum rate of 1,000 tons per hour.

This arrangement permits of pipe lines of economic size between the docks and the main refinery. These pipe lines (eight in number) are all of 8-inch diameter, and arrangements are made with cross connections, so that they may be used for various requirements as called for.

It is obvious that for operations on such a scale as at Llandarcy the storage capacity must be of considerable magnitude. The type of tank standardized by the Anglo-Persian Oil Co. is of 10,000 tons capacity, with a deadweight of rather less than 250 tons of steel, and is 116 feet in diameter and 40 feet deep. The total storage capacity for all crude and refined products exceeds 500,000 cons.

NEW GASOLINE MOTOR ATTRIBUTED TO ARMY

A motor truck engine said to embody radical changes from the usual type of internal combustion motor and to be able to deliver an increase of 28 per cent in power with a decrease of 20 per cent in fuel consumption is reported to have been developed by the United States Army, the American Chemical Society convention at Los Angeles was told.

The new motor was developed at Camp Holabird, Md., by Arthur W. Harrington, chief engineer of the Motor Transport Division Q. M. C., and other Army engineers. The exact nature of the fuel to be used in this motor was not disclosed by the Army engineers. It is known, however, that the gasoline intended for this motor is of the type treated with tetraethyl-lead chemical. Only one-fifteen hundredth part of this chemical is added to the ordinary gasoline. The motor was built of parts used in Government Class B trucks. To outward appearance it is exactly like the old type of truck, but internally it has been redesigned to work under pressure terrifically greater than the usual motor is required to withstand.

NATIONALIZATION PLAN TRIED IN RUMANIA

At the annual general meeting of the shareholders of the Steaua-Romana Co. of Bucharest (Rumania), approval was given to the agreements recently concluded for the company's "Nationalization." It was voted to increase the capitalization from 585,000,000 lien to 666,250,000 lei. Of the new shares to be issued the Government will receive gratis 40,000 shares of a par value of 500 lei each, these shares to have triple voting power, so that the company will be 55 per cent Rumanian controlled, as required by Article 81 of the Mining Law promulgated in July, 1924.

Only 51 per cent of the stock is at present in Rumanian hands, the balance being held by British and French interests, which have representation on the board. As a "Rumanianized" enterprise, the company will now receive from the Government concessions to exploit nine perimeters of State lands at Ochiuri, Runcu and Moroni, these nine perimeters comprising approximately 125 hectares of what are generally considered to be the best oil lands owned by the State prior to (or acquired under the provisions of) the constitution for Greater Rumania adopted in 1923.

JAPAN'S OIL BUYING

SAN PEDRO Cal., Aug. 15.—Figures obtained from the port authorities here show that in the first six months of 1925 aproximately 15,000,000 bbls. of oil were shipped to the Far East from this point of which 11,250,000 bbls. went to the Japanese Navy. The figures indicated that the Imperial Japanese Navy tankers carried from San Pedro in the period between January 1 and July 1, 1925, cargoes of oil that equaled one-third of the aggregate shipments of oil to all points for the entire 4 years of 1921-1924.

1—Up a 15% grade, digging at the rate of 10 lineal feet per minute. Boom holds to line and grade. Notice what an easy job the operator has, in spite of the grade and the high digging speed.

2—Some more 10 foot per minute digging on a Texas pipe line job. Even at this high digging speed the Barber-Greene is easy to hold to line.

Tear this out and send for the paper "The use of Small Trenching Machines," delivered by A. G. Ford of the Western United Gas & Electric Light Co., before the 21st convention of the Illinois Gas Assn.

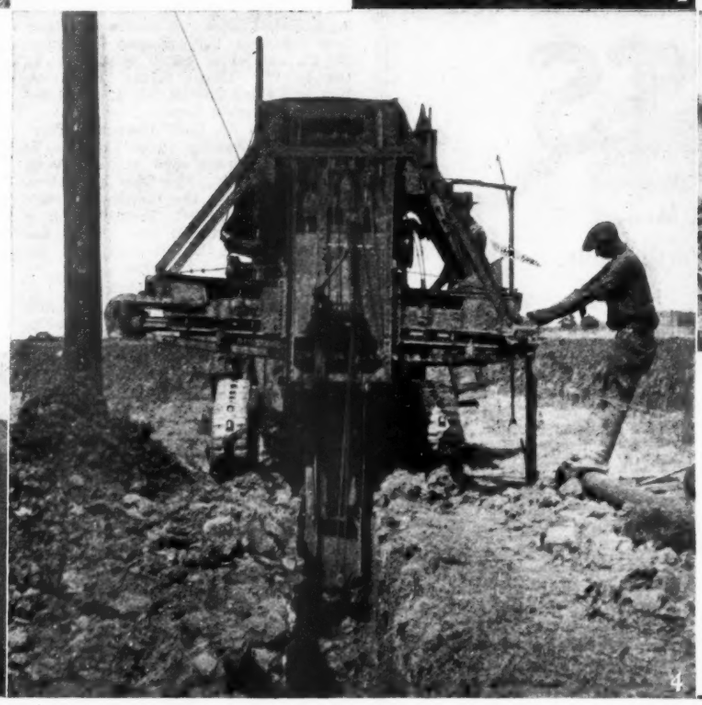
Name .....

Address .....

City .....

State .....

3—This overload release sprocket guards the Barber-Greene from the shocks of hitting underground obstructions and makes the machine as careful as human hands in digging around buried pipe. It functions absolutely automatically.



4—Here's a picture showing why the Barber-Greene made good in Texas. Cutting through Texas Gumbo and dodging telephone poles at the same time.

5—A close-up of the Barber-Greene slipping past a pole. Notice the hard lumps that have been dug and notice how close to the pole the machine can be worked.

Here's How and Why the Barber-Greene Made Good in Texas

From July 1st to December 31st, 1924, a Barber-Greene Ditcher dug 38,524 lineal feet of ditch for a Houston public service company. Here is that company's statement of the per lineal foot costs for the work.

Repairs	1.914c
Operation	2.688c
Overhead	2.724c
Total per lineal foot cost	7.33c

Comparing these figures with those previously established by hand labor has led this company to estimate that this single Barber-Greene earned a profit of $4,880.99 for the six months.

There in facts and figures are the reasons why Barber-Greenes are replacing even hand labor on digging jobs all over the country.

The ditching foreman will tell you a different story of why and how the Barber-Greene makes good. He'll tell you of the vertical boom that digs straight down and eliminates all hand labor on such work as service laterals. He'll tell you how it digs faster and holds to grade.

He'll tell you about the overload release sprocket that makes the Barber-Greene as careful as human hands in its digging. He'll tell you about the full length crawlers that hold the Barber-Greene to line and permit it to cross soft spots and ditches without fill-ins or planking.

Or he may sum up the Barber-Greene, as a Florida trenching foreman did, like this, "It's the diggendest thing I ever saw."

We've put a coupon in the upper right hand corner to help you learn more about the "diggendest ditcher," and about how it lowers digging costs and boosts digging profits. Sending it incurs no obligation, so, make use of it.

BARBER-GREENE COMPANY—*Representatives in 50 cities*—600 West Park Avenue, Aurora, Ill.

BARBER GREENE

Portable Belt Conveyors Self Feeding Bucket Loaders

Coal Loaders . . . . . Automatic Ditch Diggers . . . Coal Feeders

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OIL O AND G GAS

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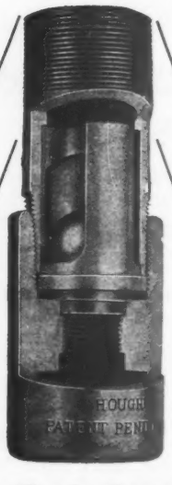


The Hough Extension Lower Valve may be ordered of your favorite dealer—he stocks it because of its unusual quality that makes it an outstanding value among other valves of its class.

It's made to deliver long, trouble-free service—try one out and be convinced of its value.

THE CHARLES N. HOUGH MFG. CO.
Franklin, Penna.
Products that cut down your underground overhead

PENNSYLVANIA-W. VA.

(Continued from Page 52)

test on the A. E. Kendall farm. It is a gasser good for 2,500,000 feet. The location is 1,200 feet north of the first test. In the same township, the Pure Oil Co. is due in the Clinton sand at a second test on the Hiram Marquis farm, and rigs completed for tests on the Clark Smith and Carnot Miller farms.

Light Pumpers in Shallow Sand

In Wesley Township, Washington County, Emaline Thronily and others completed in the first Cow Run sand, No. 6 on the Herbert Wymer farm, not good for more than 1 bbl. a day. In Section 7, Marion Township, Morgan County, Dunn & Bruns have a still lighter pumper at their No. 18 on the J. A. Lovell farm. In Section 18, Madison Township, Perry County the Carter Oil Co. started to drill a second test on the E. W. Skinner farm. This location is 80 feet east of No. 1, a plugged hole on the same farm.

In Section 35, Coal Township, Perry County, the Sunday Creek Coal Co. is due in the Clinton sand at No. 129 on its own property. The Ohio Fuel Corp. has a rig up on the Charles Trimmer farm. In Hopewell Township, Muskingum County, the Mideast Oil Co. has a gasser in the Clinton sand at a test on the G. L. Starkey farm.

Starting New Work

Development work in Athens County is picking up. In Alexander Township, C. H. Beasley & Co. started to drill No. 7 on the W. D. Whaley farm. In Section 15, the Southern Oil Co. is drilling joint test on the Hoyt Hamming farm. In Section 15, J. A. Ronshausen and others are drilling a second test on the J. M. Woods farm. In Section 17, W. Ronshausen and others are drilling a test on the O. C. Chapman farm.

E. J. Edmonds & Co. started to drill a test on the Alger Forgy farm, in Newton Township, Licking County. In the same township, F. M. Rugg & Co. started to drill No. 9 on the Jacob Weiss farm. In Section 22, Knox Township, Columbiana County, W. A. Baker started to drill a test on the G. L. Johnston farm, one-half mile south of production on the W. W. Straup farm. In Liberty Township, Washington County, James Hadley & Co. are drilling No. 16 on the James Hadley farm.

Southwest Pennsylvania

On Patterson Creek, Morris Township, Greene County, E. H. Tague & Cummins completed a test on the H. A. Funk farm and dry in all sands. At Reese's Mills, Washington Township, Elliott Moore & Co. drilled a test on the Frank Reese farm through the Gordon sand. It is a gasser good for 700,000 feet. In Robinson Township, Washington County, Lewis & Co.'s test on the McConnell heirs' farm is a gasser in the Gordon sand. In Hanover Township, Coulter & Duncan's test on the Alex Hood farm is also a gasser.

In South Strabane Township, Washington County, E. H. Tague & Co.'s test on the Quail Sisters' farm, previously reported a duster, has been drilled a little deeper into the fifth sand. It will now make a very light pumper. The total depth is 2,560 feet.

The Natural Fuel Co. of Pittsburgh, Pa., is drilling at 600 feet on a well at the Barchlay farm, near Homer City, Indiana County, Pennsylvania.

TRY THREE-PART RATE TO INCREASE GAS USE

KANSAS CITY, Mo., Aug. 15. — Efforts of the Kansas City Gas Co. to obtain permission for installation of 500 three-part rate meters here as an experiment is viewed as a forerunner to putting into effect the three-part rate system throughout the city at some future time.

The three-part rate is as follows:

First — A customer's charge of $1 a month to users of the system. This is the cost of accounting, such as the making out of bills.

Second—The demand charge, which is 40 cents a foot based on an hourly schedule. This covers the interest and depreciation on invetment necessary to supply the customer.

Third—Rate of 45 cents a thousand feet for gas used. This is for the cost of the gas proper.

A device is placed on the meter which limits the supply according to the needs of the customer.

There will be no effort to force the three-part rate on the citizens if they do not desire it, B. C. Adams, representative of the Doherty interests, said. Mr. Adams asserted the system would be an optional proposition with the consumer. Any user may continue on the present rate if desired. City officials have made no move for or against the application of the gas company to the Missouri public service commission.

Solon T. Gilmore, city counselor, said all that was asked was that the gas company be permitted to get 500 consumers to contract for the three-part rate charge for a period as a trial. No one was obliged to take it and the city was not obligated to approve it.

"I got the impression," he said, "the trial was to be made with consumers who use gas for heating; the purpose being to enter into competition with coal and fuel oil companies. The public service commission and the city decided to remain neutral. We knew no argument against the plan as submitted to us and did not desire to give consent to it; therefore, we decided to stay out."

Mr. Adams said the purpose was to interest some of the customers here in the use of gas for house heating purposes.

"The company is desirous of increasing the consumption of gas here and the largest field it has obviously is house heating.

"The rate we propose to use for house heating will not increase the rate to those who elect to use it, but on the other hand will reduce the rate for those using in excess of 50,000 feet a year. The customer who now uses gas for cooking and water heating is paying 99 cents for 1,000 feet, but if he will add a sufficient consumption of gas to heat his home he will make his rate approach 70 cents a thousand.

"The attractive feature to the company is the possibility of increasing the consumption of gas and still limiting the demands on the system through the operation of limiting devices installed with the meter."

Mr. Adams asserted that if the experiment worked out satisfactorily it would enable the company to increase the sale of gas and in turn, "eventually would result in a general rate reduction."

"It is the purpose of the Doherty interests," he said, "to sell as much gas as it can at the lowest possible rate, and to avoid the installation of any character of rate that will be injurious to the small consumer."

The Doherty interests have obtained permission to install 100 of the devices in Kansas City, Kans., and in other Kansas cities. It was admitted by Mr. Adams that the rate would not be to the advantage of the present average consumer unless he extended the use of gas for heating purposes.

The three-rate meter, it was explained, is a device which limits the supply to the needs of the customer, estimated in advance. If a consumer estimates 5,000 feet is needed each month the meter would be set at that amount. If only half that amount was used the consumer would be charged for the orginal estimated amount. Gas company officials, however, say that adjustments would be made in such cases.

There are approximately 80,000 gas consumers in Kansas City. While the rate is based on a graduated scale, the average is about 85 cents a thousand feet.

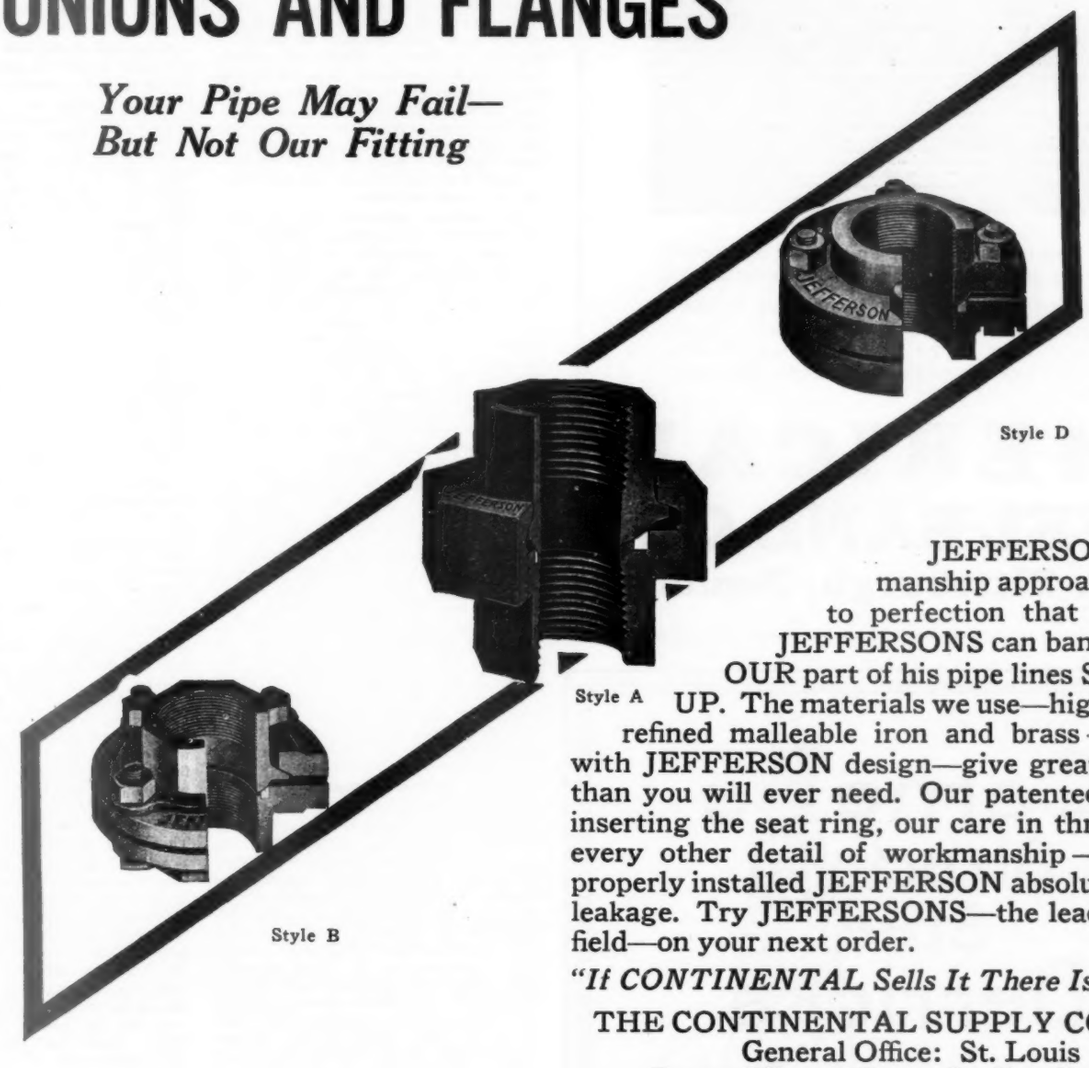
WESTINGHOUSE REPORT

According to a statement issued by the Westinghouse Electric & Manufacturing Co., orders received for the quarter ending June 30 last, totalled $44,432,200, as compared with $40,031,000 for a similar period in 1924.

Jefferson

UNIONS AND FLANGES

Your Pipe May Fail—
But Not Our Fitting



Style D

Style A

Style B

JEFFERSON craftsmanship approaches so close to perfection that the user of JEFFERSONS can bank on at least OUR part of his pipe lines STANDING UP. The materials we use—high grade, air-refined malleable iron and brass — combined with JEFFERSON design—give greater strength than you will ever need. Our patented method of inserting the seat ring, our care in threading, and every other detail of workmanship — insure the properly installed JEFFERSON absolutely against leakage. Try JEFFERSONS—the leaders in their field—on your next order.

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MORE THAN 70 STORES IN THE OIL COUNTRY

CONTINENTAL

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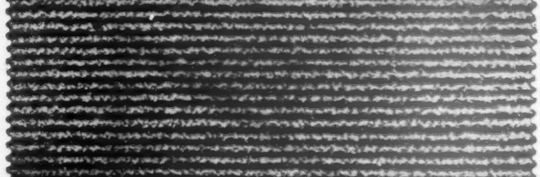

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We carry in stock and are in position to fabricate Corrugated Sheets and all necessary formed products, such as Ridge Roll, Flashing, Flumes, etc., and can make immediate shipment. Our service is free.

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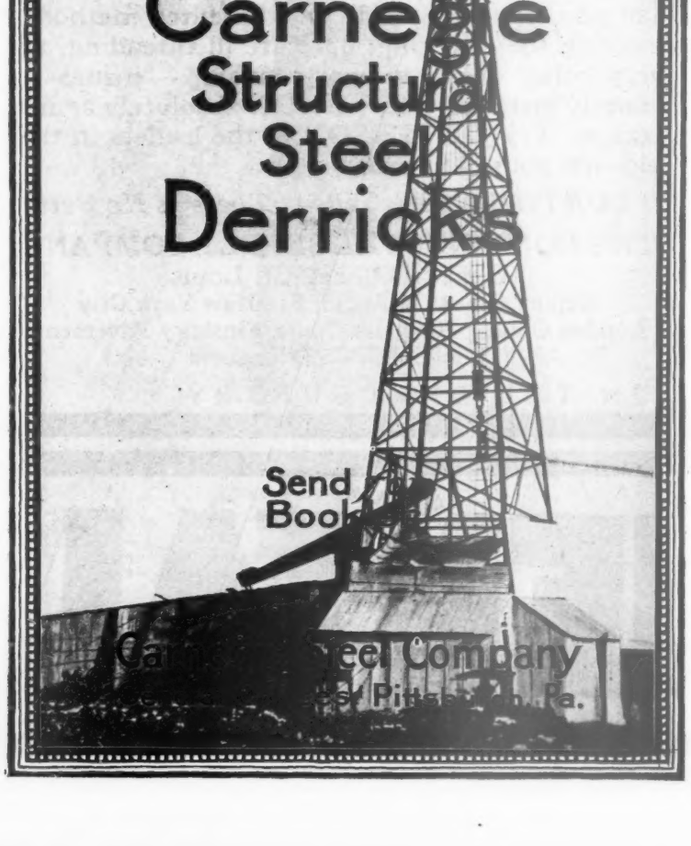


Synthetic Methanol Suggested Substitute If Gasoline Fails

Synthetic fuel to take the place of gasoline when the world's supplies of that liquid may be exhausted, is engaging the earnest attention of chemists in both this country and Europe, said Dr. Harrison Howe of Washington, D. C., editor of Industrial and Engineering Chemistry, the official organ of the American Chemical Society, during its annual convention at Los Angeles.

"Methanol, the new form of fuel developed by the Germans may fill the bill," said Doctor Howe. "This fluid, which is derived from elements that are among the most abundant in nature, posesses all the properties of wood alcohol, which is distilled from different kinds of wood, and may be used for the same purposes. About the only respect in which it differs is that it does not have the characteristic odor of wood alcohol.

"Information reaches us that the present production of synthetic methanol in Germany is calculated at about 1,000 tons monthly, and that the Oppau plant is to go on a commercial production basis. By Autumn it is expected that production will reach 2,000 tons monthly, making an estimated total of 1925 of 15,000 tons. It is claimed that the production costs are now about 13 per cent of the cost of methanol by the wood distillation process. Indeed it is stated that at one plant the cost has been reduced to 3 cents per kilogram."

Fifteen thousand tons of methanol is equal to 5,000,000 gallons, or more than half the amount of methanol produced in this country now by wood distillation. With the increased German production of 2,000 tons a month, the production in 1926 should be 8,000,000 gallons, which is more than the United States produces now by wood distillation. It is probable however, it is said, that in 1926, the Germans will be obliged to compete with synthetic methanol produced in this country, as the du Pont Co. expects to be able to produce it, following the discovery of a synthol or methanol patent seized with others by the alien property custodian during the war and only recently interpreted.

Hidden in Patent

It was only last March, when Germany began flooding world markets with synthetic wool alcohol made at half the cost of the American distilled brand that the patents were carefully inspetced by Thomas Delehanty, in Department of Commerce chemist, who was seeking information on which to base a circular about methanol and by Chester A. Penning, a chemist for the Tariff Commission. There was discovered in the Patent Office a German patent obtained prior to the entrance of the United States into the World War, which it was believed was the basis of the German process of making methanol. This patent with others had been bought by the Chemical Foundation from the alien property custodian and it is reported the du Pont Co., which obtained a license to produce under the seized German patent, undertook to begin operations in a plant at Clinchfield, W. Va., but abandoned that intention and is erecting a "pilot" factory at Charleston in that State for the manufacture of synthetic methanol.

The patent is known simply as "Patent No. 1,201,850. Producing Compounds of Carbon and Nitrogen." Its language was so veiled by the German patentees that it was looked on for a long time as simply the pet of some German chemist and of no importance.

It was filed with the Patent Office in Washington, February 11, 1914, by Alwin Mittasch and Christian Schneider, representing the Badische Anilin and Soda Fabrik Corp., of Ludwigshafen-on-the-Rhine, Germany.

This patent was one of 13 filed at various times between June 10, 1912, and June 14, 1914. All were interrelated, but none by itself seemed of importance. Scattered through the thousands of patents in the Patent Office, they attracted little attention. The patents themselves were granted at later dates. "Twelve-O-Eighteen-Fifty," as the key patent is commonly called, being granted October 17, 1916, just before this country entered the war.

Forgotten During War

When this and the dozen related patents were seized, none could figure them out and soon were forgotten, lying in the safe of the Chemical Foundation, Inc., which was formed to license the seized patents to any American concern wanting them. Dye and similar patents were quickly made use of, but the 13 were forgotten.

Patent No. 1,201,850 covered alcohol, but that it was almost undecipherable. In the synthetic manufacture, carbon and hydrogen compounds are produced by passing various chemicals over a heated catalyst at high pressure and temperature. The patent referred to various metals that could be used as catalysts in the process, and to combinations of them, but neglected to specify the combination or the most desirable metals for various productions.

It also preferred to pressures of "more than five atmospheres" and to temperatures of "more than 300 degrees centigrade." There was nothing specific and nothing needed to be, for under the American Patent Law a product can be patented and the process generalized, a loophole that enabled the Germans to make a mystery of their patents. But research was started, and under the generalizations of the patents now discoveries are being made.

Temperatures and pressures are being experimented with. For example, though the patent covers anything "more than 20 atmospheres," synthetic ammonia is made at 18,000 pressure, and so on with other products. The problem has been to get the details.

Try to Buy Secrets

Prior to experiments, American concerns sent chemists abroad to investigate and to offer fabulous sums for German secrets, but with no result. Georges Patart, director of the French Bureau of Explosives, had succeeded in producing methanol, or synthetic wood alcohol. It was charged that his success lay in the fact that as an official he made a post-war inspection of German chemical plants and saw how the processes were being carried out in large scale production. This he and French officials deny.

A legal fight over the processes has been impending for some time between Patart, the Germans and the American interests, but with the discovery of the secrets of the key patent here legal authorities say there is no doubt as to the American rights.

The patents have a life of 17 years from date of issue, so that it will be 1933 when the key patent—No. 1,201,850 expires. Until that time only American concerns licensed by the Chemical Foundation, Inc., may use it in this country. After that date it is open to all. There is no limit to the number of licenses to be granted.

Licensing concerns must be 75 per cent American in personnel, pay a $100 licensing fee for each patent and maximum royalties of 5 per cent after production is started.

NEW MARINE OIL ENGINE

A party of shipping men, manufacturers and engineers witnessed a demonstration at the Sun Shipbuilding Co.'s plant at Chester, Pa., of a new internal combustion oil engine for marine use, which, according to an engineer who recently looked over the plans, bids fair to mark the greatest development in prime movers that has come to light in 50 years. The engine, which was developed by W. R. Smith Whaley, is a 750 horse power 2-cycle, single acting unit, operating on a principle entirely different from the Diesel and weighing only about 68,000 pounds, compared with about 200,000 pounds for a Diesel of similar power.

MEXICAN FIELDS

(Continued from Page 46)

Tierra Blanca, both finishing as dry holes at 2,406 and 2,238 feet respectively.

Panuco

In the northern fields, drilling operations in the Panuco sectors are best reflected as follows: La Corona Petroleum Co.'s No. 82 San Manuel has another fishing job at 3,150 feet; its No. 19-A Delicias is in gray lime at 1,570 feet. Consolidated Oil Fields of Mexico's No. 2, Lot 6 Camolote, cemented 8-inch in gray lime at 1,645 feet, and its No. 4 is in gray lime at 2,075 feet. Credito Petrolero's No. 2 Piedras is in gray lime at 1,510 feet. East Coast Oil Co.'s No. 42 Laguna de la Milpa is in gray shale at 620 feet; its No. 43 Estero Grande is commencing to be a deep hole in gray lime at 2,375 feet, and its No. 10 Palagana is in white lime at 2,270 feet. Mexican Sinclair Petroleum Corp.'s No. 10 Tanaturo is in blue shale at 550 feet. Cia. Pet. Maritima, drilling in the Federal zone at Picras, is testing cemented 8-inch casing at 1,396 feet in its No. 2. Mexican Gulf Oil Co.'s No. 8 Zuniga, the lease where the Gulf first obtained production in Mexico, is drilling in shale at 222 feet; its No. 3 Esterillos cemented 8-inch in gray lime at 1,620 feet. New England Fuel Oil Co.'s No. 16 Delicias is in gray lime at 1,425 feet. Nationa Oil Co.'s No. 19 Chijoles is in gray shale at 1,550 feet, and its No. 8 Herradura is in gray shale at 1,320 feet. Tampascos Oil Co.'s No. 3 Barrangan, which is being deepened, is in white lime at 1,950 feet.

Cacalilao

In the Cacalilao sector, operations follow: La Corona Petroleum Co.'s No. 155, Lot 4 Cacalilao is in broken lime with a showing of oil at 1,745 feet. International Petroleum Co.'s operations in Lot 5: Nos. 131 and 190 are in gray lime at 1,625 and 1,815 feet respectively; Nos. 200 and 207 are in gray lime at 1,920 and 1,820 feet respectively; Nos. 208 and 209 are in the same formation at 1,935 and 2,025 feet respectively; No. 213 is in gray shale at 318 feet; No. 215 is in shale at 130 feet; No. 217 is in gray shale at 620 feet; No. 218 is testing cemented 8-inch casing at 1,195 feet to drill in; Nos. 219 and 220 have each cemented 8-inch casing in the San Felipe at 1,198 and 1,202 respectively; No. 222 cemented 8-inch in the same formation at 1,115 feet, and No. 223 is spudding. Mexican Sinclair Petroleum Corp.'s No. 41, Lot 3 Cacalilao, cemented 8-inch in the San Felipe at 1,150 feet. Transcontinental Petroleum Co.'s operations in Lot 4 follow: No. 141 is in the San Felipe at 1,550 feet; No. 181 in lime at 2,085 feet; No. 182 in the San Felipe at 1,300 feet; No. 202 cemented 10-inch in the San Felipe at 1,250 feet; No. 204 in shells at 1,110 feet; No. 205 in shale at 200 feet; No. 212 running 10-inch in the San Felipe at 1,220 feet, and four derricks are up and rigging. In the Paciencia, just north of Cacalilao, Transcontinental's No. 19 is in lime at 2,090 feet; No. 32 is cementing 10-inch in the San Felipe at 1,220 feet, and No. 33 is a derrick.

South Fields

In the South fields, Huasteca Petroleum Co.'s No. 60 Cerro Azuel is drilling in blue shale at 245 feet. In the Tierra Blanca, Huasteca's No. 50 cemented 10-inch in gray and brown lime at 2,112 feet; its No. 51 there is in gray shale at 1,791 feet. Up in Tres Hermanos, its No. 7 is in hard brown lime at 4,843 feet, and No. 9 is in a conglomerate at 4,472 feet. In Juan Casiano, Huasteca's No. 14 is in shale at 755 feet. Mexican Eagle Oil Co.'s No. 46, Lot 138 Amatlan, is rigging standard at 1,800 feet, where the drill stopped in a blue sandy shale; its No. 47, Lot 120, same, is also rigging standard at 1,760 feet in shale; its No. 48, Lot 134 Chinampa, is in gray shale at 1,409 feet; its No. 26 Alazan is spudding in yellow clay at 30 feet; its No. 21 Cerro Veijo memented 8-inch in shale and shells at 1,795 feet. Way down south, its No. 35 Furbero is in hard blue shale at 362 feet; its No. 2 Mecapepec is rigging standard at 3,465 feet, where the drill stopped in a hard sandy shale, and its No. 1, Lot 2 Escobal, cemented 10-inch in a hard sandy shale at 2,500 feet. Otontepec Petroleum Co.'s No. 2, Lot 191 Amatlan, tested cemented 8-inch at 1,940 feet, hard gray shale. Penn Mex Fuel Co.'s two active tests, south of the Tuxpam River, are unchanged since the last report, drilling operations there having been suspended for the time being.

Northern Miscellany

Operations in the Corcovado sector of the northern fields are as follows: La Corona Petroleum Co.'s No. 12, Lot 6 Corcovado, is in brown and gray lime at 1,990 feet; its No. 13, same, is in the San Felipe at 1,355 feet. Intermex Oil Co.'s No. 5, Lot 4-D, is around 2,140 feet in the San Felipe. International Petroleum Co.'s No. 8, Lot 6 Corcovado, cemented 8-inch in the San Felipe at 1,201 feet; its No. 9 is in gray shale at 1,390 feet with the hole caving. Mexican Gulf Oil Co.'s No. 10 Chapacao, just to the northwest of Corcovado, is in gray lime at 1,862 feet; its No. 12 cemented 8-inch in the same formation at 1,165 feet, and No. 13 is moving in. Transcontinental Petroleum Co.'s No. 14, Lot 6 Corcovado, is in shale at 1,150 feet; No. 15 is in the San Felipe at 1,965 feet, showing 20 bbls. and three strings are rigging.

At Ebano, Mexican Petroleum Co.'s No. 7 Chapacao is in gray shale at 405 feet; No. 38 cemented 10-inch at 1,310 feet, gray lime; No. 39 is in white shale at 175 feet. In the Chijol, its No. 31 is drilling in blue shale at 340 feet; No. 33 cemented 8-inch in shells at 1,205 feet; No. 34 is running 10-inch in blue lime at 1,235 feet, and two derricks are going up. At Mendez, its No. 7 cemented 8-inch in brown shale at 1,240 feet; and its No. 39-A La Dicha is in blue lime at 1,330 feet; No. 9-A La Pez is in gray lime at 2,025 feet, and No. 10 La Pez is in pink shale with the hole full of oil at 550 feet.

National Lines, drilling on its Chapacao right-of-way, cemented 8-inch in its No. 16 in gray lime at 1,315 feet; its No. 17 is in gray shale at 575 feet, and two derricks are rigging.

At Los Esteros, American International Fuel Co.'s No. 11 is in gray shale at 3,783 feet; No. 17 is in white lime at 2,127 feet.

In Topila, Credito Petrolero's No. 10-A, Lot 43 Pac. de Aguacate, cemented 8-inch in the San Felipe at 1,610 feet. Topila Petroleum Co.'s No. 3- Ramirez is in broken shale at 1,760 feet.

In the Marland Field, Cia. Pet. Franco Espanola, No. 32 Limon is in gray shale at 730 feet; No. 34 is in blue shale at 120 feet, and No. 35 cemented 10-inch, presumably in gray lime at 1,015 feet.

North of the Tamesi River, Rich Mex Oil Co.'s No. 1 Rosita is in shale at 1,420 feet.

Deplorable Accident

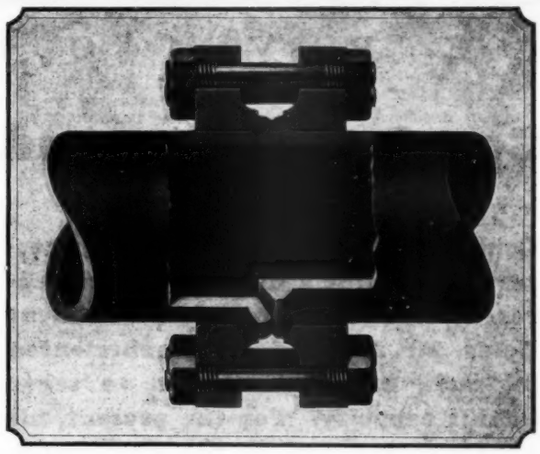
A. P. Stephenson, 34, assistant superindtendent of the International Petroleum Co.'s big camp at Chijol, in the Cacalilao sector of the northern fields, accidentally shot and killed himself while on a hunting trip recently. In reaching behind him for his hammerless shotgun, while riding in his car, the gun, loaded with buckshot, was accidentally discharged and the load shattered his heart. His body is being shipped to his home in Virginia. He was unmarried. Many friends regret his untimely end.

A. E. Watts, ranking vice president of the Sinclair Companies, who has been here inspecting company properties managed by W. G. Tschudin; and J. W. Stanford, an executive of the companies, whose headquarters is also in New York, have left for the United States after a stay of a few days.

CALIFORNIA FIELDS

(Continued from Page 44)

cent water and sand. The Shell put No. 2 Wilbur on a pumping test after redrilling and deepening it to 5,121 feet but an effective water shutoff has not been secured and further work will be required. It is at present pumping 100



MIDWEST Joints

eliminate gasket trouble

GASKET failures upon hot oil and vapor lines in refinery and natural gasoline plant service have been responsible for innumerable fires resulting in serious loss of property and even life.

Your gasket troubles will be eliminated because the Midwest Joint (patent pending) requires no gasket—the joint contact is between specially machined convex and concave spherical surfaces which are integral with pipe or fitting.

Midwest Joints were originally developed for high pressure and temperature (500 pounds and 1,000° F.) oil refinery service, but they are now also used in large numbers upon low pressure and vacuum lines—because they reduce the fire hazard. Midwest Joints are used upon steam piping for pressures to 600 pounds and temperatures to 750° F.

The pipe-to-pipe Midwest Joint is shown above. Joints between pipe and fitting (or valve) and between two fittings (or valves) require modifications from this but their characteristics and advantages are the same.

Erection of piping with Midwest Joints is simplified and its cost reduced because the flanges swivel upon the pipe and because there are no gaskets or field welding. This feature is doubly important in refinery service that necessitates the lines be frequently taken down and cleaned.

Seven additional reasons for using Midwest Joints are given in circular M-2. Write for a copy.

MIDWEST PIPING & SUPPLY CO.

Second and Barry Sts.

St. Louis, Mo.

Tulsa Office: 615 Petroleum Bldg.

Fabricators of Oil Refinery and Power Plant Piping

S E R V I C E

Consistent Demand

Consistent demand has made it necessary to appoint a direct Spengler representative for the Mid-Continent fields. Mr. J. O. Carter, an experienced oil man, has been selected to serve in this capacity. For the present, his headquarters will be the Rice Hotel, Houston, Texas. First hand information on the services of this company will be obtainable through Mr. Carter.

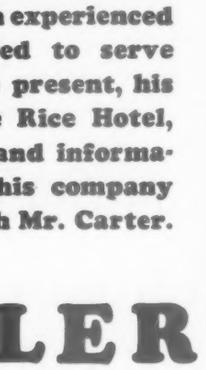
SPENGLER

CORE DRILLING COMPANY

A. J. BARTLETT BLDG. LOS ANGELES PHONE MET. 7714
12901 HARBOR BLVD, STATION H. TEL. COMPTON 1153 & 1301
TAFT, CALIFORNIA, PHONE 81

R E S U L T S

I'm Wrong About ONE Thing



There is only one time that a man's wife says he is right, and that is when he admits he is wrong.
"I guess I should have turned at that last corner," he says.
"No," she says, "I'm sure you are on the right road."
"I ought to have charged that fellow a little more," he says.
"If you had," she says, "you wouldn't have got the business."
"Maybe I ought to have charged him a little less," he says.
"What do you want to do," she says, "business for nothing?"
"I am afraid I was all wrong," he says. "Now, what's the use of talking like that?" she says. "You did just right."

NYE—*The Die Man*
Pipe Tool Maker to the American Plumber and Steamfitter

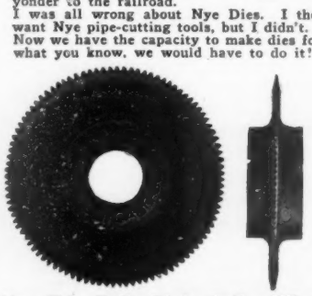
Nevertheless I have been all wrong about Nye Dies

I was wrong when I started my first shop for making pipe-cutting tools. I thought it would be big enough. I was wrong.
We had to keep adding machines, and had to keep adding machine to keep track of the machines we added.
We had to keep putting on more men until we got as crowded as the baldheaded row at the Follies.
We kept stepping on each others' toes, and, if you had ever seen our feet, you would know that was a serious matter.

So We Have Built a New Plant

All new, all our own, all over, and it reaches from Fullerton Avenue 'way back yonder to the railroad.
I was all wrong about Nye Dies. I thought I knew how many plumbers would want Nye pipe-cutting tools, but I didn't.
Now we have the capacity to make dies for all the world—and if all the world knew what you know, we would have to do it!
HARRY G. NYE.

The Nye Tool & Machine Works
4120 Fullerton Ave., Chicago, Illinois



Nye Thin Knife Blade Cutter Wheels

They cut with one-third the power and time required by the old type wheels.
Made both knurled and smooth-edged; same price.
Made to fit all standard makes of pipe cutters. Guaranteed against breakage in use.

Nye Toledo type pipe threaders, made in both the plain and ratchet type. Satisfaction absolutely guaranteed. Sent on free trial.

No. 1 Nye Toledo Type Threader complete .....$9.60 net
West of Rocky Mountains $10.20
No. 1-A Nye Toledo Type Threader complete .....$12.00 net
West of Rocky Mountains $12.75

bbls. of oil and 200 bbls. of water. The Chanslor-Canfield Midway Oil Co. added another small pumper on its Del Amo property in the Torrance Field during the week, No. 34, which is pumping 265 bbls. of 16.8 gravity oil from 3,675 feet. In addition to Nos. 81 and 106, now drilling, the company is making preparations to start work on Nos. 28, 33, 41, 43 and 47. The Shell also finished a small pumper when its No. 4 Torrance was put on the beam at 3,595 feet. It is good for 95 bbls. of 18.3 gravity oil. The Standard put well No. 11 on Marble lease No. 1 on the beam at 3,825 feet but it is pumping practicallyall water. No. 4 on Marble lease No. 2 is also a water well at 3,800 feet and the company will be required to do a little more work on each.

The new wells and one completion sum up operations at Huntington Beach during the week. Tme Julian Petroleum put its No. 1 Farro on the beam at 2,785 feet after finishing the hole with a 6¼-inch oil string. It started off pumping 61 bbls. of 18.1 gravity oil which cuts 3 per cent. No. 4-A Johnson of the Pan-American was good for 89 bbls. of 19.8 gravity oil from 2,925 feet. The hole was finished with a 6¼-inch oil string carrying 328 feet of perforated. The recompletion finished during the week was No. 1 Dabney of the General Petroleum, which was put on the beam at 3,711 feet after being plugged back from 3,746 feet. The initial pumping was 10 bbls. of oil and an equal quantity of water.

Richfield

The Chiksan Oil Co. is preparing both its No. 3 Bradford at 5,706 feet and No. 4 Bradford at 4,825 feet in the Richfield district for production tests and they should be tanking oil some time during the coming week, unless unforseen delays are encountered. The Standard is rigging up No. 20 on Kramer lease No. 2 and will probably spud in within 10 days. The Shell ran into bottom water with No. 3-A Orange at Fullerton and the hole in being plugged back from 4,622 feet to around 4,500 feet, at which depth a production test will be made if a satisfactory shutoff has been effected. The Union is still held up with mechanical trouble in No. 1 Olinda, its Fullerton wildcat at 2,853 feet but is going ahead in No. 2 at 2,625 feet, at which depth a core is now being taken. The Fullerton Oil Co. is down 4,620 feet in its well No. 19, while the Brea Canyon Oil Co. is going ahead in its No. 37 at 4,390 feet. The Chanslor-Canfield Midway Oil Co. cemented No. 96 Olinda at 3,600 feet and No. 98 on the same lease at 1,035 feet.

Seal Beach

The Seal Beach area seems to be coming in for quite a bit of play at present following the failure of the Associated to secure even the faintest showing in its No. 1 Hellman, which is now in a gray sand and sticky brown shale at 5,130 feet. The Marland is building a rig for No. 1 Bixby southwest of this hole, while the Shell has staked location for No. 1 Alamitos to the southeast. No. 1 Hellman is about midway between the two. The Shell is still drilling ahead in No. 3 Bryant, which has passed the 6,400-foot level, and is making hole in No. 2 Bryant at 5,200 feet. Judging by the status of the several wells, it will be some little time before the first commercial producer is finished. None of the presents tests look good for production and it will be up to either the Associated, Marland or Shell to develop production by drilling new wells. The big question to be answered, of course, is whether commercial production really exists in the area. Many different theories have been advanced as to the location and extent of the field at this point. One prominent geologist is on record as condemning the area as not commercially productive, while others equally well known have directly opposite views. Just which opinion is correct will be definitely decided by future drilling of the above named companies, particularly the Associated, if the next test is further south than the presen hole on the Hellman ract.

The Associated made a short test of its No. 101 Fox in the Beverly Hills section of the Salt Lake Field at 4,825 feet, after landing a string of 6¼-inch carrying 1,125 feet of 100 mesh screen, but several days of bailing and swabbing have failed to develop any showing. The Julian Petroleum has plugged back No. 1 Rowntree at Newport to 1,175 feet but it did not show up any too well at this depth. The hole was originally drilled by the Empire Drilling Co. to 2,600 feet, at which depth it was taken over by Julian. A production test is being made of the Newport Petroleum's oil mine in this area, which consists of a 500-foot shaft. Several pumps have been installed but the only output so far seems to be water. F. A. Winchester is going ahead in his deep test. No. 2 Newport, at 2,780 feet, and it is reported the hole will be carried to at least 3,000 feet. The Interstate Oil Co. is plugging back all of its holes in this area in the hope of developing shallow production. The company has staked a new location for No .1 Johnson but has not yet hauled in material. J. J. Rickar got a slight showing in his No. 1 Mesa at 795 feet but will probably not be able to make a test under 900 feet.

Midway-Sunset

The biggest surprise in the Midway-Sunset area in several years was the Obispo Oil Co.'s well No. 6 on Section 32-12-23, which came in early in the week flowing between 500 and 600 bbls. a day under a pressure of 360 pounds. The well, which is a recompletion after having been redrilled and deepened from 2,800 feet to 4,000 feet, is out on the Maricopa Flats. It had been an upper zone well for about six or eight years up until last year when the oil saturated rig was destroyed by fire. The derrick was later rebuilt and rotary equipment installed with the idea of testing out the underlying brown shale from which it is believed the present production is coming. This latter fact has not been definitely established but is believed to be undoubtedly the source of production. The well is still holding up remarkably well, and, if it continues to do so, will undoubtedly result in the immediate deepening of nearby wells to this deep sand. It is a little bit early to state whether this production will continue to hold up for any length of time but the rather stable gas pressure seems to indicate it will do so. The Taft Drilling Co. has assumed active management of the Calivada property and successfully returned No. 1 on Section 34-32-24 to production. A rig is going up for No. 3 and it is believed it will be spudded in shortly. The Pacific Oil Co. brought in a 2-,600-bbl. well on Section 19-31-24, when No. 19 was given a test after being drilled to 4,600 feet and finished with a 6¼-inch oil string. The well is flowing through a 1⅛-inch bean under a pressure of 240 pounds. The Pacific's next completion on this property looks like No. 17, going ahead at present at 4,380 feet.

The Federal Drilling Co. was not successful in returning its No. 1 on Section 20-31-24 to production as a flowing well but put it on the beam and listed it at 400 bbls. The company is now woking on No. 3, drilled to 5,007 feet, and will probably make a production test within two weeks. The Honolulu Consolidated finished a rather small but shallow pumper when No. 14 on Section 4-32-24 was put on the beam at 2,917 feet. It started off pumping 185 bbls. of clean 25.2 gravity oil. Water broke in while a test was being made of the Big Chief Oil Co.'s No. 6 on Section 2-11-24 and another cement job will be necessary at 2,420 feet. The Standard is finishing its No. 24 at Elk Hills on Section 31-30-25 and will make a test shortly from 3,254 feet. The General Petroleum reports a slight showing of gas in No. 4 Gillon at Wheeler Ridge in Section 28-11-20 at 2,140 feet, but does not expect to complete it above 2,500 feet. The Standard finished a 165-bbl. pumper in the Kern River Field, Section 21-28-27. The company's successful completion was No. 2, finished at 2,630 feet. George F. Getty is still working with No. 1 Tegeler on this section

adjoining, 22-28-27, and will make a test of the 6¼-inch landed at 2,405 feet.

Ventura

The Associated is drilling ahead in the oil sand at 5,190 feet with No. 18 Lloyd in the Ventura Avenue Field and should bring in a good well shortly. A successful water shutoff was secured at 4,702 feet and the well should be tanking oil within two or three weeks. No. 8 Lloyd is being cleaned out at 4,367 feet preparatory to being deepened, while new rigs are going up for Nos. 20, 26 and 101. The present drillers are Nos. 15, 21, 22 and 32. No. 4 Barnard of the General Petroleum is showing up rather good at 4,304 feet and a substantial producer may be brought in. On the Notten property the company has No. 7 at 3,700 feet, No. 8 at 1,500 feet and No. 9 at 3,425 feet. The Shell has only one driller on the Edison and Taylor lease but has several good looking prospects on the Gosnell property. No. 7 at 4,821 feet, No. 8 at 5,082 feet, No. 10 at 3,980 feet, No. 11 at 3,805 feet, No. 14 at 4,620 feet, No. 16 at 3,258 feet and No. 17 at 3,685 feet are the present drillers on this lease. The Bolsa Chica Oil Co. has not yet spudded in No. 1 Hartman, which looks like it will be an edge well, but should do so shortly as the rig is just completed. The Chanslor-Canfield Midway Oil Co. should also start work shortly on No. 1 Hobson, a wildcat.

Southern California Wildcats

All three of the wildcatters in the Bandini area reported satisfactory progress during the week. The deepest No. 1 Couts of the Oak Ridge, has just passed 2,918 feet, while No. 4 De Baker of the Bandini Petroleum and No. 1 Vail of the Superior are running neck and neck at 1,130 feet. The Huntington Downey Syndicate is planning to land a string of 4¾-inch in its Clearwater wildcat, which looked quite favorable when the company reentered the hole a week of 10 days ago. It is not known just why such a small pipe is being used as this practically brings the hole down to a minimum diameter, unless it is the intention to make one last attempt before pulling out. The Midway Gas Co. is coring ahead in No. 1 Luezinger, its Hawthorne test at 2,740 feet. The Shell is going ahead rather slowly in No. 1 Stubbs at La Maria, the prevailing formation at 5,798 feet being a hard sand and shale. Another wildcat is being located in the Newhall-Saugus area between the Associated's No. 1 Newhall, now at 5,100 feet, and the Union's No. 1 Saugus standing cemented at 2,704 feet. W. W. Stabler is the new entrant into this district and it is his present intention to start work in the near future.

The Petroleum Securities is erecting a steel rig to be known as No. 1 L. A. Trust in the Palos Verdes Hills and will probably start drilling within two or three weeks. The same company's wildcat at Torrance, No. 1 Crest, is making hole in a hard gray sand at 3,654 feet. The Milham Exploration Co. is in a sticky brown shale at 4,246 feet in the Playa Del Rey area. The Standard has started preparations to abandon No. 1 Hadley at Rivera after going to 5,900 feet in a vain attempt to develop production in the area between Montebello and Santa Fe Springs. The Wucherer-Gray Oil Co. has resumed work on its No. 4 in the San Joaquin Hills and is at present going ahead at 2,048 feet. No. 1 Von Schriltz of the Standard at Santa Ana Gardens is in a hard gray sand at 3,726 feet.

Northern California Wildcats

The Chancelor-Canfield Midway Oil Co. has resumed drilling on its test well at Delano, which looked so promising a few weeks ago that numerous operators acquired acreage in the immediate vicinity, but is going ahead slowly. The hole is being cored solid and, while it is reported that the company has sufficient sand to make a small well at present, no attempt is being made toward testing out the formation. The present depth is 3,820 feet. Geological reports on the immediate area vary on the possibility of securing commercial production, several condemning the area as unproductive. For this reason some of the larger operators have not even taken the trouble to secure protective acreage. On the other hand, there are several who look with favor on the district and are leasing up all available acreage which can be secured at a reasonable price. The Standard's wildcat at Lost Hills, Section 12-25-19, is going ahead in a blue shale at 2,540 feet. Out on the McKittrick front, the Barnsdall is drilling ahead on Section 30-29-22 at 4,271 feet. The Standard is held up in one of its tests on Section 25-29-21 at 2,936 feet but is going ahead in the other at 3,400 feet.

The Poso Creek district in Kern County, is apparently scheduled for early development work. This is evidenced by the fact that the Associated has leased the Bolles property on Section 6 and the Shell has proposed to drill on Section 9. This area has for some time been regarded as rather doubtful, following the early work of the Standard several years ago, which was terminated rather abruptly because of water trouble. Great strides have been made in recent years toward solving difficult water problems and it would not be at all surprising if Poso Creek eventually turned out to be another producing field. Early reports indicate clean commercial production was actually developed in several holes, which, after flowing for a few days, suddenly turned to water. This handicap was never successfully overcome and eventually resulted in abandonment.

The Raisin City area did not show any improvement during the week. The Associated is reaming on Section 14-15-18 at 5,450 feet and fishing for drill pipe on Section 26-15-18 at 5,860 feet. The Fresno-United on Section 23-15-18 is making preparations to land a string of 4½-inch at 5,481 feet. The Associated reports 3,048 feet of hole on Section 15-16-19 at Caruthers and 4,251 feet on Section 35-13-26 at Kerman, with no favorable comment on either. Neither the General Petroleum nor Marland made any progress in the Kettleman Hills area, both being held up with mechanical trouble. E. J. Miley is drilling ahead at 1,950 feet in his Red Mountain wildcat in Ventura County but has not yet found a sand of sufficient thickness to warrant a production test. The Ring Oil Syndicate, Section 23-3-21, on South Mountain in Ventura County, is testing for a shutoff on the 6¼-inch. This hole has plenty of gas and may develop into something good. An unconfirmed report credits the Harriman-Jones well in Monterey County on Section 20-19-6 with a good sand at 3,820 feet and indicates that a string of 4¾-inch will be landed for an early test.

Oil field operations reported to the State Oil and Gas Supervisor show 8 new wells started, compared with 27 during the previous week. Tests for water shutoff this week totaled 32, 4 more than during the period previous. There were 22 deepening or redrilling jobs listed, compared with 21 during the preceding week. Seven holes were abandoned, bringing the total for the current year to date to 260. Permits were issued for the following new holes:

Inglewood

Location, Company, Well—
Petroleum Securities Co.—
8-2-14 Cone 14.
Shell Co.—
2-2-14 Rindge 14.
Standard Oil Co.—
7-2-14 Vickers 1, 18

Newport

Julian Pet. Corp.—
21-6-10 Mesa 2.

Torrance

Shell Co.—
9-4-14 Torrance Comm. 5.

Domingues

Shell Co.—
34-3-13 Reyes 30.

ConeJo

34-2-20 C. A. Harding-Trustee 16.
33-2-20 C. A. Harding-Trustee 43.
The following wells were abandoned:
22-4-14 Lora J. Oil Co. 2.
26-4-14 Lora J. Oil Co. Schatz, 1.

Inglewood

Standard Oil Co.—
16-2-14 Stocker 1.

Long Beach

19-4-12 A. T. Jergins Trust 17.

Santa Fe Springs

California Pet. Corp.—
6-3-11 Matern Three 3.

Midway

3-32-24 Pacific Oil Co. 41.
13-32-23 Pacific Oil Co. 5.

SOUTHWEST TEXAS

(Continued from Page 46)

in the Austin chalk at 2,015 feet. E. L. Smith Oil Co., which has been rigged up for some time on No. 1 Lackey, near Dale, south and east of the Lockhart Field, but could not start because there was no water for the boilers, has spudded in and is drilling below 750 feet. This will be an Edwards lime test and is one of several that will be made in the territory east and south of the Lockhart Field as soon as it rains and there is enough water available.

Witherspoon Oil Co. has completed No. 10 Cardwell, in the Lockhart Field, making 70 bbls. an hour when it came in and which brings the production of the lease up to around 2,500 bbls. per day.

Most of the tests in Caldwell County outside of the proven field other than those mentioned are shut down. There is a probability that some of those recorded last week as being dry in the Edwards will be drilled to lower formations.

Bexar County

Humble Oil & Refining Co., which got sulphur water at 1,540 feet in No. 1 Cassin, in Bexar County, 5 miles south of the city and near the Alta Vista Field after several unsuccessful attempts to shut the water off has resumed drilling and will test the formations below the Edwards. In the No. 2 Minna Coreth, southeast of the city 2 miles, a depth close to 1,170 feet where a 2,000,000-foot gas well was completed in the No. 1, has been reached. It is understood they will mud off the gas and continue down to the Edwards at least. The gas was encountered in the Taylor Marl horizon.

Of the deep tests in the Somerset Field, Ballard & Underwood have fished out everything in No. 1 Eastwood except the bit at 3,400 feet and will probably have that out soon. They tested the Edwards and got sulphur water and are now intending to test formations below the Edwards. Hitchman & Howard are arranging to start a deep test on the Herman Schmidt tract, in the eastern part of the shallow field, and Texas Southern, which is abandoning one test that did not get below 1,600 feet on the Surtees lease, is preparing to start another. The first was lost with junk in the hole. W. E. Rutledge's No. 1 Kaufman is standing with a fishing job at 2,710 feet.

Deep tests in the Somerset shallow field started more than a year ago, the first being started by Ballard & Underwood, who are now drilling their third. Lefevre & Storey, on a Marland lease, in the northeastern end of the field just outside of the edge of shallow production and on Marland geology, drilled another and all thus far have found sulphur water in the Edwards. The wells on the Kaufman and Surtees leases never reached the Edwards. Hitchman & Hoard are experienced oil men and will make a good test. Rio Bravo, in the northwestern corner of Atascosa County and about 10 miles south of the Somerset field, got some oil at 3,400 feet but not enough and is drilling its second test. Nothing more than a start has been made, therefore, to testing the Somerset area, for deep oil.

A deal is in process of being closed up now for a test to be made jointly by two major companies east of the Somerset Field a mile or two, which will test at least to the Edwards lime, if not below that.

Zavala County

E. L. Smith is preparing to make the location for his first test in Zavala County on the Speer ranch, east of the Pryor ranch. Hadley & Harman have nearly completed a water well as a preparation for spudding in the first test on the Pecan pastore of the Pryor ranch for Old Dominion Co. Continental Oil Co.'s No. 1 Pryor, being drilled by Hadley & Harman, is drilling below 2,000 feet with standard tools.

Miscellaneous

Plateau Oil Co. has abandoned No. 1 Calvin, in Bastrop, at 3,502 feet.

Humble Oil & Refining Co. is having trouble with sand in the No. 2 Cross State Land, 7 miles south of Kingsville, in Kleberg County, where it was recently supposed to have opened a new pool at 2,000 feet. Its No. 1 Kleberg is drilling at 1,800 feet.

Milam County

Work of drilling in the Magnolia's deep test on the Kime lease, in southern Milam County, started early last week and the well was being bailed and swabbed as this was written. Concrete plugs were drilled out late last week. Officials of the company and many scouts were assembled to see the test. Total depth of the well was 3,805 feet. Special arrangements were made for a schedule of five trains a day from Rockdale to Marjorie Switch, near the Magnolia well, to accommodate the public desiring to go "out to the well."

Completions in the Rockdale shallow field the past week include Anchor Oil Co.'s No. 2 Hamilton, with 10 feet of sand and good for 25 bbls., and the Junior Oil Co.'s No. 2 Hamilton, good for the same amount. They were completed at 1,050 feet. Chicago Oil & Land Co.'s No. 1 Gaither is a 25-bbl. pumper and No. 2 is drilling in. Dockdale Development Co. is starting the development of a 30-acre tract in the shallow field.

Waco Oil Co. is completing No. 1 Dornhoefer at 938 feet. Palmer & Noack's No. 1 Kirchenwitz is a dry hole. Bartlett Production Co. has set casing in No. 5 Coulter.

Milam County

Magnolia Petroleum Co.'s No. 1 Kime, in Milam County, is a sulphur water well at 3,805 feet and in the Edwards lime. It was drilled with a rotary and after cementing casing was drilled in with cable tools, and was bailed last Friday and Saturday resulting in getting sulphur water. There was a great deal of interest locally in Rockdale and Milam and between the setting of casing and the testing of the well considerable trading in leases and royalties, mainly royalties, as the leases were pretty generally in the hands of the major companies.

Humble Co.'s test is on a line or trend a little farther from the Balcones fault than most of the wildcatting. A line of wildcatting following closely the Bastrop-Travis County line is under way and due to increase since several additional tests are about to start and this line of wildcatting will be a little closer to the Balcones fault. It includes the Simms Co.'s No. 1 Smith and the Gulf Co.'s No. 1 Ryal, in Williamson County, and the Plateau Co.'s test at Coupland, in Williamson, and another at Littig, in Travis. Simms, Gulf and Plateau's Coupland are drilling. The Littig test is rigging up.

Mirando Field

In Zapata County, The Texas Co. is drilling at 3,211 feet in the Jennings No. 1 and is the only active well drilling in the county.

In Jim Hogg County among the wildcats a heavy rain in the central western part of the county delayed the Magnolia getting machinery to its No. 1 on Survey 415, which is a little south of and practically an offset to the Pippin and others' No. 2 Palacious that is believed to have opened a new pool. Conway & Bailey and Andrews Petroleum Co., on the No. 1 on Survey 267, an offset to the west, is shut down. Pippin is about to start a new test. No. 1 is shut down. Beauchamp is drilling in No. 1 Givens at around 1,800 feet.

In Duval County, the Associated Co.'s No. 1 Sutherland, on Survey 185, is drilling at 1,500 feet. United States Gas & Oil Co. (Burton and others) has not started drilling on No. 1 Peters. Humble Oil & Refining has spudded in on Survey 102, in the northern part of Duval County, near its recent test on Survey 116, where it got fresh water at 2,400 feet, in No. 1 Pusch.

In Webb County, National Oil & Refining Co. has made a location on Survey 699, between the Carolina-Texas and Cole Fields. Another test is to be started by Morgan and others in the territory east of the Carolina-Texas gas field. They completed last week No. 1 de la Garza, on

Survey 336, which was gauged at 80,000,000 feet of gas. The gas well be used by Killam and others to supply an Antonio. The location of No. 1, on Survey 336, was made in the hope of getting oil. It resulted in probably the biggest gas well in the field. Depth was 2,080 feet. The next location will also be made in the hope of getting oil.

Miscellaneous

Kiefer and others tested No. 1 Adams, in Medina County, at 1,056 feet and got both oil and salt water. It is possible the salt water is coming from above.

Gulf Production Co. has taken a block of about 3,000 acres in Medina County, about 6 to 8 miles south and west of Hondo.

Showing Near Anchorage

The Rio Bravo Oil Co. (subsidiary of Southern Pacific Railway) has 60 feet of oil saturated sand in No. 3 Cortinas, just west of Anchorage, in the northwest corner of Atascosa County, and about 7 miles south of the west end of the Somerset shallow field. Depth of the hole is 2,350 feet. Conservative and competent judges say it looks remarkably like an oil well.

J. S. Suttle first blocked the leases there and drilled one hole that got considerable oil at about 2,900 feet but the rig was old and the well was lost with a fishing job. A deal was made with the Rio Bravo which was unable to fish out the tools and started another test about 300 feet to the southeast. It got a log so much different that it was believed there was a fault between. However, the test which was carried as No. 2 Cartinas, got considerable production at 3,400 feet in a volcanic formation, but not enough at that depth for a commercial well.

Another location was made 1,500 feet southwest of the Suttle well, which now is in the pay at the depth given above. Rio Bravo is buying more acreage about the well. The well has not yet reached the Austin chalk, and is presumably in the Taylor Marl. It will be tested soon.

Atascosa Oil & Gas Co. is drilling at 2,912 feet in the McAda No. 1. It will be drilled to 3,000 feet and if production is not found will probably be abandoned. Same company has made a location and is moving in a rig on the Peeler farm nearby and will start a test there. Both are north and west of Campbelton a short distance. Hallorann & Gilliam's No. 1 Peeler in southern Atacosa is drilling below 1,500 feet.

Bee County

W. G. French drilling at 1,870 feet in the No. 1 Lucas northeast of Beeville 9 miles is putting on a night tour. W. G. Clark is drilling at around 2,600 feet in No. 1 Scott 4 miles northeast of Beeville; Ross & Frederickson's No. 1 Waelder south of Beeville a few miles has a gas showing at 2,700 feet and will test.

DeWitt County

Yoro Development Co.'s No. 1 Burns at Edgar is drilling at around 600 feet, having passed two small gas showings. Cuero Oil & Gas Co.'s No. 1 Holzappel is resuming at 1,550 feet in gumbo after shutting down to get drill stem. Steinman's No. 2 is reported with a gas showing at 700 feet.

McMullen County

D. C. & M. C. Syndicate which for a year has been drilling on the Lowe ranch 10 miles south of Tilden with some degree of success at developing shallow oil has shot its No. 6 and No. 7 Lowe with 10 quarts in the first and 30 quarts in the last with the result that it claims the wells will be good producing commercial wells. No. 6 has 3 feet of pay from 410 to 413 feet and No. 7 which is 300 feet away has 13 feet of pay from 402 to 415 feet. The first it is claimed by the operators, is good for 10 bbls. and the second for 25 bbls. The wells are not yet on the pump and on sustained production, which test may considerably reduce the first estimates. The oil is a lubricating oil much the same character as other pools along the Reynosa Escarpment. It is about 12 or 15 miles southwest of the Calliham Field which is the nearest production.

Houston Gulf Gas

Houston Gulf Gas Co. which, as announced last week, has closed a contract whereby it takes over the development some 40,000 acres in McMullen County of the Grubstake Investment leases of has taken possession and has three rigs running, on tests that were in process of drilling by the Grubstake. No. 3 Jacobs is drilling in at 744 feet. No. 1 Fisher, the discovery well on the north side of the Frio River is at 1,056 feet and is being tested out in a sand that is new to the field, though the showing has been passed at that depth in other wells. No. 4 Brown a shallow gasser is nearly ready to test.

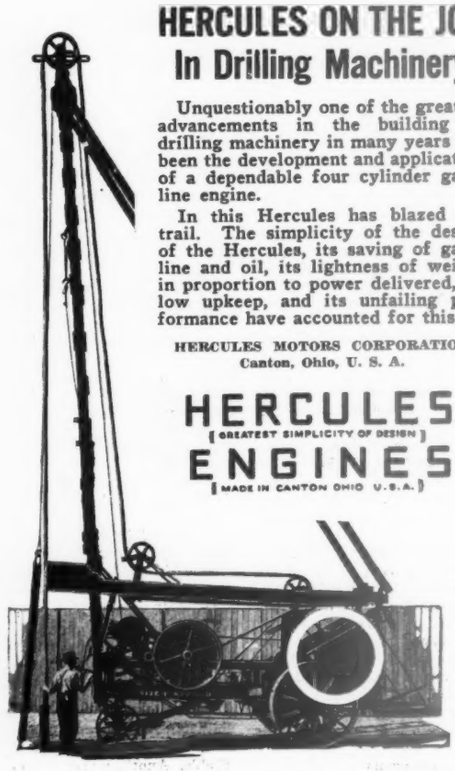
Houston Gulf Gas Co. completed its No. 1 Powers in the Markham Field in Matagorda County good for 50,000,000 feet and opening up the third big gas field for the company, the others being in Refugio and Jackson Counties. Its No. 1 Reeves in Victoria County near Coletto Creek, where it hopes to open up still another big gas field is drilling at 780 feet in gumbo.

In the Refugio County Field, No. 1 Lambert has been abandoned and plugged and the rig skidded 200 feet and a new test started. It is in the gas area north of the city of Refugio and though it got the gas sand was a failure and a replacement well will be drilled. No. 1 Mitchell south of town, which it was hoped would open a new gas area or extent the old, failed to get production and is abandoned.

Houston Oil Co. in Goliad County in the gas area, is drilling at 3,000 feet in No. 1 Dick Woods. In Bee County Ross & Frederickson who took over No. 1 Waelder of the old Damitza Oil & Gas Co. is getting ready to test a gas showing at 2,700 feet. The well is south of Beeville.

Medina County

Eastman & Tarver have completed No 1 Wilson in the Ina Field in Medina County and found 41 feet of saturated oil sand at 925 feet to 966 feet. There is not enough gas to make the well flow. It is believed it will without doubt make a good commercial pumper and it will be put on the pump at once, and another test started. It is the sixth well in the Ina Field which was discovered a year or more ago but has been indifferently developed. Easthan & Tarver are experienced drillers and it is believed No. 1 Wilson is completed in such shape it will give an indication of the possibilities of the field. Ina Oil Co.'s No. 1 Blackburn is setting casing. One week ago when preparing to set casing the boiler blew up. The well is in the top of the Edwards lime with a showing of oil at 1,842 feet. Casing is being set at 1,830 feet to test. Arnett Oil Co.'s No. 2 Nixon is setting casing at 933 feet.



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BLOSSOM SAND HAS BEEN DISAPPOINTING

(Continued from Page 40)

B-7 Murphy, SW SE NE SE, Section 29-15-15, was flowing 150 bbls. a day from sand at 2,589-98 feet.

Sun Oil Co.'s No. 6 Johnson, SW SE SE, Section 30-15-15, set a short string of 5-7/16-inch pipe at 2,608 feet.

Simms Oil Co.'s No. A-5 Laney, NE NE SE NW, Section 31-15-15, tested a hole full of salt water at 2,604-19 feet. Simms Oil Co.'s No. B-9 Laney, NW SW NE, Section 31-15-15, three-fifths of a mile directly east of No. A-5 Laney, got sand at 2,586-96 feet and the well was flowing 2,000 bbls., 8 per cent salt water.

Simms Oil Co.'s No. 7 Hirsch, NE NE, Section 31-15-15, was getting 6⅝-inch casing at 2,579 feet.

Jack Crosbie's No. 12 Berry, CSL SW NE, Section 33-15-15, was coring at 2,751 feet.

Duho Oil Co.'s No. A-1 McKinzie, SW NW NE, Section 36-15-16, was coring at 2,755 feet.

Ohio Oil Co.'s No. A-4 Lewis, SE SW NW, Section 36-15-16, was coring sand at 2,861 feet.

Arkansas Fuel Co.'s No. 3 Spahr, NE SW NE, Section 35-15-16, set 8¼-inch pipe at 2,617 feet.

Ramage and others' No. 10 James, NE NW, Section 6-15-15, tested salt water with a showing of oil at 2,550-52 feet.

Marine Oil Co.'s No. 9 Umstead, CNL E half Lot 1, NE Section 5-16-15, coring at 2,756 feet.

Mazda Oil Corp.'s No. R-4 Lawton, SE NE SW, Section 10-16-15, is coring red shale at 2,960 feet.

Walber and others' No. 1 Morrison, NW SE NE, Section 12-18-14, is drilling below 2,400 feet for Blossom sand.

Roxana Petroleum Corp.'s No. 3 Williams, NE NW SW, Section 34-15-15, is a 30,000,000-foot gasser with a spray of oil and a showing of salt water from sand at 2,550-75 feet.

Gulf Refining Co. of Louisiana's No. 20 Murphy, C SE SE SE, Section 9-16-15, is a 30,000,000-foot gasser, spraying 100 bbls. of oil from sand at 2,604-45 feet.

Sunny Jim Oil Co.'s No. 1 Flenniken, SE SW SW, Section 9-16-15, is making 40,000,000 feet of gas with a spray of oil from sand at 2,690-94 feet.

Roxana Petroleum Corp.'s No. 2-A Flenniken, SE NW SE, Section 10-16-15, tested a hole full of salt water from sand at 2,593-99 feet.

Sun Oil Co.'s No. 3 McClanahan, SE NE SE, Section 1-16-16, is flowing by heads 400 bbls. a day from sand at 2,557-60 feet.

Wilroy and others' No. 1 Berg, SE NE Section 28-15-15, cored an oil sand at 2,575 feet and was arranging to set 6-inch pipe.

The Standard Oil Co. of Louisiana's No. 24 Umsted, NW NE SE Section 32-15-15, started at 30,000,000 feet of gas with a spray of oil from sand at 2,574-84 feet.

The Roxana Petroleum Corp.'s No. 1 Avera, SW SW Section 35-15-15, stands 500 feet in oil waiting for standard rig. The sand is at 2,550-57 feet.

Humble Oil & Refining Co.'s No. 6 Farris, CNL NW NW Section 34-15-15, was a 35,000,000-foot gas well from sand at 2,576-81 feet. There was a spray of oil and salt water with the gas.

The Roxana Petroleum Corp.'s No. 3-A Bennett, SW cor. NE NW Section 32-15-15, was flowing by heads 300 bbls. a day from sand at 2,580-90 feet.

The Gulf Refining Co. of Louisiana's No. 1 Howard, NE cor. NW Section 13-16-16, was coring at 2,716 feet.

The Laurel Oil & Gas Co.'s No. 2 Houston, NE SE Section 12-16-16, was bailing to test sand at 2,682-85 feet. Number 1 on this lease was a producing well in the Lawton sand.

Simms Oil Co.'s No. 5 Murphy, SW SE SE Section 29-15-15, set 6⅝-inch casing at 2,418 feet.

Meek, trustee's No. 6 Laney, NE NW NE Section 31-15-15, bailing to test sand at 2,594-2,601 feet.

Graves sand production for the 24 hours ending Friday morning was 136,675 bbls. from 614 completions and the Lawton-Blossom sand production was 16,417 bbls. from 39 completions.

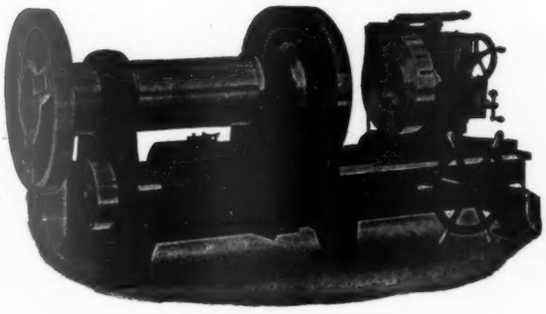
"UNCLE NAP" DIES; "FUGITIVE FROM OIL"

EL DORADO, Ark., Aug. 15.—The body of "Uncle Nap" Brown, picturesque oil field character and fugitive from oil, has gone to its long rest in a country cemetery 6 miles east of Eldorado.

"Uncle Nap" had become almost a national figure from the fact that the wealth from oil that he did not seek always followed him.

With the flowing on all sides of his home west of Eldorado, he bought a farm on the east side of the city, only to have oil found there and the peace he sought disturbed with the clanking rush of development. Later he went to Texas and bought a large farm. Current reports here are that drilling rigs were running in sight of that farm when he died.

Simple funeral services marked the passing of "Uncle Nap," who died in his eightieth year.



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BRANCH SHOP, TULSA, OKLA.

OKLAHOMA FIELDS

(Continued from Page 36)

The well was a 225-bbl. well naturally and the shot made it produce 310 bbls. the first 24 hours. It was shot with 35 quarts. Number 9, CEL NE SE SE Section 12-27-5, was not helped much by the shot. It had the sand at 2,922-95 feet with first oil at 2,945 feet. It was good for 200 bbls. naturally and made 250 bbls. after a shot of 32 quarts.

Phillips Petroleum Co.'s No. 16, CWL SW NW SE Section 25-27-5, is spudded, and the rig is up for No. 6, CSL SW SE SE Section 20-27-6. The Carter Oil Co. has spudded No. 9, CSL NW SE NE Section 20-26-6. A. D. Morton is drilling at 500 feet in No. 1, NW cor. NW Section 1-26-7.

Owen-Osage Co. is drilling at 610 feet in No. 340, NE cor. SE NE Section 10-27-11. Kansoma Oil Co. has completed No. 7, CSL SW SE Section 36-27-11. It is a light well making 15 bbls. after a shot of 80 quarts in the Bartlesville sand 1,420-44 feet.

Devonian Oil Co. is rigging up No. 11, C SE SW Section 34-25-11, Big Heart district. Owen-Osage Co. has spudded No. 339, SE cor. SW NE Section 32-24-12, and No. 377, CWL NW SE Section 7-23-11, is also spudded.

The Winona Petroleum Co.'s No. 1, NE cor. NW Section 29-29-9, is dry and abandoned at 1,480 feet. The Indian Territory Illuminating Oil Co.'s No. 333, CWL NW SE SE Section 29-29-10, had 1,000,000 feet of gas in the Peru sand at 1,224-29 feet and set the 6-inch casing at 1,676 feet on top of the Mississippi lime. L. C. Duffield's No. 15, CNL NW SE SW Section 35-29-10, had a dry sand 1,190-1,205 feet and the well was abandoned. Winona Petroleum Co.'s No. 8, SE cor. SW SW Section 22-29-11, is drilling at 520 feet, and the rig is up for No. 9, CSL NW SE SW Section 22-29-11. The Wiser Oil Co. is drilling at 420 feet in No. 13, C NW NW Section 27-29-11. Simmons and others have completed a small Peru sand well in No. 4, CEL NE NE Section 36-29-11. Sand was 866-878 feet, the well was given a shot of 40 quarts and is good for 3 bbls. Lambert & Alcorn have a failure in No. 1, CWL SE Section 36-20-11. A dry sand was found 1,145-68 feet and the total depth is 1,170 feet.

Okmulgee District

East of Beggs in Okmulgee County, in the new pool opened some time ago by the Olean Petroleum Co., there are several new operations. E. L. King has a rig up for No. 1, SW cor. SE SE Section 25-14-12, and Page Brothers have a rig for No. 3, C SW NE Section 14-15-12. The Noble Oil & Gas Co. has a rig on the ground for No. 1, SW cor. NW Section 23-15-12.

In the Bald Hill territory, the Papoose Oil Co. has a machine in for No. 25, CNL NW SE SW Section 21-15-14, and also for No. 26, NE cor. SW SW Section 21-15-14, and is rigging up a machine for No. 27, CWL NW SW Section 21-15-14.

West of Okemah in Okfuskee County, the Western States Oil Co. has a rig on the ground for No. 1, NW cor. NE Section 14-12-8. Dalton, Baker and others are building the rig for No. 1, SE cor. SW SE Section 18-12-8.

In the old Youngstown Field, Vincent and others have a rig on the ground for No. 1, NW cor. SE Section 3-13-11, Tiger Flats district, Okmulgee County. The Independent Oil & Gas Co. has a rig for No. 1, CNL NW SE Section 7-12-12, Schulter district.

Near Morris, the Utah Oil Co. is preparing to drill an old well deeper, No. 1, SW cor. NE Section 15-13-14. Old total depth is 1,750 feet. W. R. Summerville has a rig up for No. 2-A, C S half SW NW Section 25-13-14.

Near Boynton, Muskogee County, the Blakely Oil & Gas Co. will drill two wells. Number 1, S Wcor. SW Section 34-14-16 and No. 1, SE cor. SW NE Section 4-13-16. The rigs are up for both of these tests. The same company will drill a well west of Henryetta; No. 3, SW cor. SE SE Section 10-11-11, Okfuskee County.

Near Dustin W. C. Newman will drill No. 1, SW cor. SE NW Section 2-10-12, Okfuskee County. The rig is built.

North of Beggs Clover Brothers have completed No. 4, SW cor. NW Section 3-15-11, Okmulgee County. Sand was 1,968-2,015 feet and the well was shot with 10 quarts. It is estimated at 25 bbls. The Devonian Oil Co.'s No. 1, NE cor. SE NW Section 14-15-12, is completed for 15 bbls. after a shot of 10 quarts in sand at 2,619-30 feet, total depth 2,636 feet. Mid-Continent Petroleum Co.'s No. 3, NW cor. NE SW Section 14-15-12, had the sand at 2,618-35 feet and is a 200-bbl. well after a shot of 20 quarts. Page Brothers' No. 1, CSL SW SE NE Section 14-15-12, is a failure and abandoned at 1,930 feet. It is an old well drilled deeper.

500-Bbl. Well in Bald Hill

In the Bald Hill district J. A. Swindler has completed a big well in No. 1-A, SE cor. NE SE Section 20-15-14. Sand was 2,184-2,200 feet and the well flowed 500 bbls. natural.

North of Morris the Magnolia Petroleum Co. has a dry hole in No. 3, SW cor. SW SE Section 10-14-14, at a depth of 2,975 feet. W. R. Summerville's No. 3, NW cor. NE Section 28-14-14, is abandoned at 2,225 feet.

West of Okemah the Western States Oil Co. has a dry hole in No. 1, SE cor. N WNE Section 14-12-8, Okfuskee County. The total depth is 3,555 feet.

A. G. Hazlett has completed a small gas well in No. 1, SW cor. SE SE Section 2-13-14, Okmulgee County. Sand was 786-822 feet and the well is shut in and completed with 500,000 feet of gas.

Olean Petroleum Co.'s No. 2, CWL SW SE Section 36-11-9, Okfuskee County, is running 5-inch casing at 3,672 feet. The well is making 25,000,000 feet of gas in sand at 3,660 feet.

Independent Oil & Gas Co.'s No. 2, SW cor. SW Section 19-10-10, Okfuskee County, is dry and abandoned at 3,465 feet. Tidal-Osage Oil Co.'s No. 1-A, SW cor. NW SW Section 2-11-11, had the top of the sand 2,557-78 feet and broken sand to 2,614 feet. It has a show for 15 bbls. The Mid-Continent Petroleum Co.'s No. 2, NE cor. SE SE Section 3-11-11, had sand at 2,612-17 feet, total depth 2,691 feet. The well was plugged back to 2,617 feet and shot with 20 quarts. It is making 10 bbls.

Vincent & Stansberry have a dry hole in No. 1, NE cor. SE Section 28-11-11, Okfuskee County. Total depth of the test is 3,050 feet. Mid-Kansas Oil Co.'s No. 2, SE cor. NW NE Section 14-10-11, is dry and abandoned at 3,948 feet. White Eagle Oil Co. and T. A. Johnston Co. have completed No. 1, NW cor. NE SW Section 21-10-11, in sand at 3,090-95 feet, total depth 3,131 feet in shale. The well is good for 30 bbls. Tidal-Osage Oil Co. is building the rig for No. 2, NW cor. SW Section 34-10-11.

In the Bald Hill district, Okmulgee County, The Texas Co.'s No. 1-A, SE cor. NW SE Section 20-15-14, had the top of sand at 2,226 feet, total depth 2,284 feet and is a 40-bbl. well naturally. It is to be shot. The Texas Co.'s No. 14-A, NE cor. SW SE Section 20-15-14, is spudded. Hastings and others are shut down at 300 feet in No. 4-A, SW cor. SE NW Section 21-15-14. Papoose Oil Co. has spudded No. 23, CSL NW SW Section 21-15-14. Papoose Oil Co. and Swindler's No. 24, CSL NW SE Section 21-15-14, had the sand at 1,675-1,700 feet with a show for a 60-bbl. well. It is shut down.

East of Okemah, J. E. Dow has built a rig for No. 1, SE cor. SE Section 26-11-10. Savoy Oil Co. has spudded No. 1, NE cor. SE SE Section 21-11-11. Henry Oil Co. and Amerada Petroleum Co. have abandoned No. 9, CEL SE NW SW Section 24-11-11, at a total depth of 2,408 feet.

Near Henryetta, Moffett & Slick have a dry hole in No. 3, NW cor. NW Section 9-11-12. It is abandoned at 3,910 feet. Decises and others have a rig and tools in for No. 3, NE cor. SE NE Section 17-11-12. This is an old well to be drilled deeper. Tidal-Osage Oil Co. has spudded No. 2, CSL SW SE SE Section 33-10-11. Number 2, SW cor. SW Section 34-10-11, is also spudded.

On the north line of Creek County H. U. Bartlett and T. E. Mann have a pumper in No. 1, NW cor. SE Section 5-19-8, in sand at 1,991-2,021 feet, total depth 2,028 feet. The well is pumping 20 bbls. oil and 15 bbls. water. It is not completed. Gled Oil Co.'s No. 1, NW cor. NE SW Section 13-19-8, set 5-inch casing at 2,415 feet and had sand at 2,467-2,480 feet, gas at 2,485 feet and oil to 2,500 feet. The well swabbed 17½ bbls. the first day and is standing with 1,000 feet of oil in the hole. It will be shot.

Lassen Brothers have completed No. 2, NW cor. SW NW Section 13-19-8, for 25 bbls. after a shot of 40 quarts in sand 2,115-2-150 feet. Carter Oil Co.'s No. 40, SW cor. SE NW Section 8-18-7, had sand at 2,517-17½ feet and it is making 72 bbls. natural.

Transcontinental Oil Co.'s No. 2, NW cor. SW Section 13-17-8, had the sand 2.258-93 feet, total depth 2,296 feet. It was plugged back to 2,291 feet and shot with 60 quarts and is good for 40 bbls.

South of Bristow the Magnolia Petroleum Co. has a Skinner sand well in No. 3, NW cor. NE SW Section 5-16-8. Sand was at 2,460-2,464 feet and the well flowed 30 bbls. an hour. It is not completed. Lorraine Petroleum Co.'s No. 3, NW cor. NE SW Section 23-16-8, is flowing 350 bbls. a day naturally from sand at 3,078-88 feet, steel line measurement.

West of Sand Springs, Holmes and others have a 30-bbl. pumper in No. 2, NW cor. SE SW Section 14-19-10. Sand was 2,376-78 feet and the well flowed 60 bbls. a day at first.

Magnolia Petroleum Co.'s No. 3, NW cor. NE SW Section 5-16-8, Bristow Feld, had the Skinner sand at 2,460 feet and the well was flowing 30 bbls. an hour at 2,466 feet. It went into water at 2,467 feet and is being plugged back a few feet. The Texas Co. has a dry hole in No. 1, SE cor. NE Section 24-16-8. Total depth of the well is 3,751 feet.

Doesn't Look Good

In the Dutcher sand pool in Township 17-9, recently discovered by the Bu-Vi-Bar Oil Co., the outlook is discouraging. Two offsets have been found dry and now the Bu-Vi-Bar's No. 3, NW cor. NE SW Section 25-17-9, is dry and abandoned at 3,212 feet. O. R. Howard has abandoned the location for No. 1, NW cor. SW SE Section 25-17-9.

Adams & Gilpin have completed a 60-bbl. well after a shot of 80 quarts in No. 1, SW cor. NW SW Section 20-17-10, Kelleyville district. Sand was 2,110-25 feet. Bu-Vi-Bar Oil Co. and others have spudded No. 1-A, SE cor. NE SE Section 23-17-10. J. H. Wright has the rig up for No. 3, SW cor. SE NW Section 24-17-10, and No. 8, SW cor. NE SE Section 24-17-10, is drilling at 650 feet. Number 5, SW cor. NE SW Section 24-17-10, is completed. Sand was at 1,808-33 feet, and the well is making 20 bbls. after a shot of 100 quarts. The rig is up for No. 9, SE cor. NW SE Section 24-17-10.

Near Bristow the Texas & Pacific Coal & Oil Co. has completed No. 2, CNL NW NW Section 6-16-9, in sand at 2,791-2,805 feet, total depth. The well was shot with 10 quarts and is making 10 bbls. of oil and 5 bbls. of water. Twin State Oil Co. has a dry hole in No. 3, NW cor. SW NW Section 34-16-9, at a total depth of 2,970 feet.

D. B. Mason has completed a well in the Dutcher sand which is flowing 40 bbls. It is No. 1, SE cor. NW NE Section 21-17-9, and the sand was found at 2,995-3,014 feet, and lime to 3,040 feet, total depth. Wood & Farren's No. 3, NE cor. NW SE Section 21-17-9, had sand at 2,938-45 feet, shell to 2,947 feet and sand 2,947-49 feet, total depth. Water broke in and they may run the 5-inch casing. Bu-Vi-Bar Oil Co.'s No. 1, NE cor. SW Section 25-17-9, has been swabbing 35 bbls. from sand at 2,825-28 feet, total depth. It may be put on the pump. Pure Oil Co.'s No. 1, SW cor. NE Section 25-17-9, is dry and abandoned at 2,875 feet. The Texas Co.'s No. 1, SE cor. NW Section 25-17-9, had sand 2,847-54 feet and had an initial production of 165 bbls. It is now pumping 25 bbls. The Texas Co.'s No. 2, SW cor. SE NW Section 25-17-9, is dry and abandoned at 2,890 feet.

Roland Oil Co.'s No. 1, CWL SW NW Section 30-17-9, had what is termed the "Jones" sand at 1,421-51 feet and is bailing 10 bbls. a day. It is not completed. Josey Oil Co.'s No. 3, NW cor. SW SE Section 36-17-9, had broken sands 1,107-27 feet, sand 1,127-52 feet, total depth 1,167 feet. It was shot with 115 quarts and is good for 6 bbls. on the pump. It may be drilled deeper. H. C. Wilson's No. 3, NW cor. NW Section 35-17-10, is drilling at 1,200 feet.

Texas & Pacific Coal & Oil Co.'s No. 3, SW cor. NE SE Section 6-16-9, had the Bartlesville sand at 2,707-18 feet, total depth 2,737 feet. It has 2,000 feet of oil in the hole and is fishing for casing. Waite Phillips Co.'s No. 4, SE cor. NW SE Section 6-16-9, revised sand record to 2,745-61 feet. The well was shot with 20 quarts and is swabbing 55 bbls. The well is being cleaned out and may be shot again.

Nowata Oil & Refining Co. has spudded No. 1, SW cor. SE NW Section 14-15-9. C. G. Tibbens' No. 13, NW cor. SW NE Section 30-15-9, had sand 3,668-79 feet with 2,000 feet of oil in the hole. It is swabbing 35 bbls. and showing water and was plugged back to 3,677 feet and shot with 30 quarts. It is being cleaned out and not completed.

The Shaffer Oil & Refining Co.'s No. 1, SE cor. NE NE, Section 6-14-9, is completed for 50 bbls. of oil and 40 bbls. of water. Sand was 3,687-3,710 feet and the well was plugged back to 3,707 feet and shot with 20 quarts.

Near Nuyaka the Jomack Oil Co.'s No. 2, SE cor. NE SW Section 4-14-10, had sand 3,175-84 feet and is showing for a 250-bbl. well after a shot of 20 quarts. C. F. Noble's No. 4, NE cor. NW, Section 20-14-10, had sand 3,367-3,400 feet, total depth. The well had 500 feet of oil in the hole when the casing collapsed. It is being pulled. H. F. Wilcox Oil & Gas Co.'s No. 1, NE cor. SE Section 20-14-10, had sand 3,365-70 feet with 600 feet of oil in the hole and is drilling ahead in sand.

Gladys-Belle Oil Co. had a hole full of water in sand 2,875-2,960 feet, in No. 2, SW cor. SW Section 17-14-10. It is drilling ahead.

Wildcat Operations

Among the wildcats of Oklahoma there was little of interest last week excepting the well of Hanbury and others in Comanche County which is recorded at the head of this report.

In Seminole County the Indian Territory Illuminating Oil Co.'s No. 1, NE cor. SW SW Section 13-7-8, is dry and abandoned at 3,853 feet.

In southern Hughes County the Burke-Gries Oil Co. & Kerr, have spudded No. 1, SE cor. NE NE Section 30-5-10.

The Humble Oil Co. is building the rig for No. 1, NW cor. SW SE Section 1-4s-3, in Carter County.

In Canadian County the C. & O. Drilling Co. has a dry hole in No. 1, NE cor. NE Section 29-11-7w. Total depth is 2,100 feet.

In Grady County, John Swartzfisher has built a rotary rig for a test. Number 1, CNL NE SW SW Section 2-8-8w. Watchorn Oil & Gas Co. is setting surface pipe in No. 1, SW cor. NE Section 21-8-7w.

CALIFORNIA TANKER FOR BOSTON STATIONS

LOS ANGELES, Cal., Aug. 15.—With the arrival of the tanker Phoenix from Boston, this port witnesses the inauguration of another oil carrying steamship line in the intercoastal trade. The new line is known as the American Tankers Corp. of Boston. The Phoenix, recently purchased from the Shipping Board, is the first vessel of the fleet, of which there will be several.

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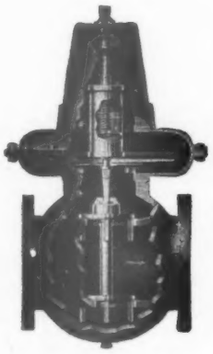

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The Oil and Gas Journal

Tulsa, Okla.

LOUISIANA-ARKANSAS

(Continued from Page 42)

000,000 feet of gas with a spray of salt water, with 10 feet of sand in the hole, at 2,584 feet; is drilling plug at 1,958 feet in No. 3 Lewis, Section 26-15-16; coring No. A-4 Lewis, same section, at 2,690 feet, and rigging up No. 5 Lewis, same section.

The Phillips Petroleum Co. is drilling plug with cable tools at 2,379 feet in No. 8 Joyce, Section 33-15-15; drilling No. 11 Joyce, same section, with cable tools at 2,383 feet, and has nine other rigs running on the Joyce lease, in Section 33-15-15. The Phillips Petroleum Co. has two rigs running on the Laney lease, Section 31-15-15.

The Pure Oil Co. set 4½-inch casing at 2,421 feet in No. 5 Brister, Section 28-15-15; drilling at 2,190 feet in No. 9 Brister, same section; Reynolds and others are rigging up No. 4 Berg, Section 27-15-17; Sam Richardson has derrick up for No. 2 Rhoten, in Section 32-15-15.

The Roxana Petroleum Corp. has two rigs running on the Avera lease, Section 35-15-15; set 6⅝-inch casing at 2,580 feet in No. A-3 Bennett, Section 32-15-15; No. 4-A Berg, Section 28-15-15, is shut down waiting orders at 1,228 feet; taking core in oil sand at 2,568 feet in No. 1-A Laney, Section 31-15-15; set 6⅝-inch casing at 2,597 feet in No. 1 Reynolds, Section 27-15-15; derrick up for No. 2 Reynolds, same section; tested No. 3 Williams, Section 34-15-15, salt water with 18 feet of sand in the hole at 2,568 feet

The Shreveport Oil Corp. set 6-inch casing at 2,333 feet in No. 4 Umsted, Section 4-16-15. The Simms Oil Co. set 6-inch casing at 2,401 feet in No. C-4 Berg, Section 32-15-15, and is now down 2,412 feet; has two rigs running on the Hirsch lease, Section 31-15-15; on their No. 2 E. Johnson, Section 34-15-15, they stuck 4½-inch casing 19 feet off bottom; then set 4-inch liner, and are waiting on drill stem at 2,553 feet; set 6⅝-inch casing at 2,594 feet in No. 5 D. S. Laney, Section 31-15-15, and is down 2,619 feet; cemented 6⅝-inch casing at 2,586 feet in No. 9 F. A. Laney, Section 31-15-15; moved rig off derrick of No. 10 F. A. Laney, same section; drilling at 2,116 feet in No. 5 N. B. Murphy, Section 29-15-16, and is down 220 feet in No. 5 Reynolds, Section 32-15-15.

The Sinclair Oil Co. has five rigs running on the Berry lease, in Section 33-15-15. The Southern Crude Oil Purchasing Co. set 4½-inch casing at 2,525 feet in No. 5 Joyce, Section 34-15-15.

The Sandard Oil Co. of Louisiana is fishing for 13 joints of 4-inch drill stem at 2,309 feet in No. 5 R. Bennett B lease, Section 32-15-15; taking core at 2,414 feet in No. 6 R. Bennett B lease, in the same section; set 6-inch casing at 2,553 feet in No. 7 R. Bennett, in Section 33-15-15; coming out to get core at 2,456 feet in No. 9 J. Griffin, Section 33-15-15; drilling rock at 2,534 feet in No. 30 M. W. Hardy, Section 4-16-15; rigging up No. 36 M. W. Hardy in the same section; taking core at 2,377 feet in No. 5 S. L. Johnson, in Section 29-15-15. In No. B-7 Murphy, Section 29-15-15, the same company got the top sand at 2,587 feet, and set 4½-inch casing at 2,598 feet; No. 5 Powell, Section 34-15-15, is standing at 2,598 feet; coming out to take core at 2,359 feet in No. 2 Reynolds, Section 27-15-15; two rigs running on the Umsted lease, Section 32-15-15; in their No. B-7 Umsted, Section 32-15-15, they got 4-inch drill stem out of hole; bit still in hole at 2,409 feet.

The Sun Oil Co. tested salt water and is now waiting orders with 7 feet of sand in the hole at 2,607 feet in No. 5 Johnson, Section 30-15-15. No. 6 Johnson, same section, is waiting orders with 15 feet of sand in the hole at 2,600 feet; swabbing to test 4 feet of sand at 2,590 feet in No. 7 Johnson, Section 30-15-15.

The Sure Oil Corp. is arranging to drill No. 2 Hill, Section 5-16-15, deeper. This well was formerly completed June 23, flowing 1,200 bbls. of oil with 17 feet of sand in the hole at 2,367 feet; set 10-inch casing at 411 feet in No. 5 Joyce, Section 34-15-15, and is now down 700 feet; sidetracking junk at 2,250 feet in No. 3 Snyder, Section 34-15-15.

The Texas Pacific Coal & Oil Co. set 5 3-16-inch casing at 2,584 feet in No. 8 Laney, Section 31-15-15. The Texas Co. is running sand pump with 9 feet of sand in the hole at 2,385 feet in No. 12 Berry, Section 33-15-15; has three other rigs running on the Berry lease, in the same section; set 6-inch casing at 2,372 feet in No. 10 Johnson, Section 34-15-15, and is now down 2,386 feet; set liner to test 80 feet of broken formation at 2,055 feet in No. 2 Neely, Section 27-15-16.

Thurman and others are arranging to fish bailer at 2,377 feet in No. 2 Wingfield, Section 5-16-15. Sid Umsted has derrick up for No. 3 fee, Section 4-16-15. The Unity Petroleum Co. has derrick up for No. 2 Henry Murphy, Section 2-16-15. Vandiver and others are down 920 feet in No. 1 Yarborough, Section 22-14-17. C. W. White set 4½-inch casing with packer at 2,624 feet in No. 1 Martin, Section 26-15-15.

O. F. Whittaker's No. 2 Berg, Section 27-15-17, is waiting on standard rig with 200 feet of oil and 26 feet of sand in the hole at 2,410 feet; Wilroy and others are down 2,350 feet in No. 1 Berg, Section 28-15-15.

Stephens Field
Ouachita County, Arkansas

The Humble Oil & Refining Co. set 10-inch casing at 80 feet in No. 1 Smith, Section 7-14-19.

Bienville Parish

J. E. Smitherman is drilling in shale and boulders at 1,325 feet in No. 1 Hodge Lumber Co., Section 8-15-5, 6 miles southeast of Bienville.

Bossier Parish

Kendrick and others set 10-inch at 180 feet and shut down in No. 1 Webster, Section 9-18-11, 2 miles north of Haughton.

J. S. McCullough, trustee, is arranging to bail at 1,555 feet in No. 1 W. H. and C. B. Hodges, Section 25-16-12, in the Elm Grove district.

Woodley & Collins shut down to repair boiler at 1,310 feet in No. 1 Chamlee, Section 20-23-12, 5 miles northeast of Plain Dealing.

Bellevue Field

G. W. Wetherbee is drilling at 260 feet in No. 1 Beirley, Section 24--19-11, and at 140 feet in No. 1 Crawford, Section 14-19-11.

Caddo Parish

In the Pine Island district, Double Ch Oil Co. set 10-inch at 100 feet and is down 385 feet in No. 4 Spell, Section 15-21-15; Ohio Oil Co. set 6-inch at 3,530 feet in No. 17 E. K. Smith, Section 12-21-15; and Lewis Oil Corp., set 10-inch at 80 feet and is drilling at 900 feet in No. 11 Raines, Section 22-21-15.

In the Hosston district, Austin Oil Co. is waiting on standard rig at 1,020 feet in No. 20 Peak, Section 23-22-15; Dixie Oil Co. tested salt water and is going deeper in No. 1 Jolly, Section 27-22-15; has derrick up for No. 1 Hoss, Section 24-22-15; Henderson and others shut down for drill stem at 1,520 feet in No. 1 Caldwell, Section 29--22-15.

In the Oil City district, Fortuna Oil Co. pulled liner 12 feet and broke cable at 2,175 feet in No. 15 Doan Thigpen, Section 5-20-15; drilling in broken lime and sand at 2,950 feet in No. 2 Levee Board, Section 8-20-15; waiting orders at 3,286 feet in No. 1 Mitchell, Section 17-18-16, 4 miles west of Cross Lake.

Flournoy, trustee, is drilling at 2,750 feet in No. 1 Simpson, Section 8-16-15, half way between Reisor and Bethany.

Haynes Brothers are drilling in sand at 3,275 feet in No. 1 Louisiana Live Stock & Plant Co., Section 8-19-16, 6 miles southwest of Mooringsport.

In the Elm Grove district, Roy and others are drilling in gas rock at 842 feet, in No. 2 Hutchinson, Section 24-16-12.

Shreveport Producing & Refining Co. tested and estimated 1,000,000 feet of gas at 2,805 feet and is drilling in shale and boulders at 2,865 feet in No. 1 Bryson, Section 17-17-16, 3 miles northwest of Greenwood.

The Texas Co. is down 2,800 feet in No. 58 Levee Board, Section 27-21-16, in the Caddo-Pine Island Field.

Claiborne Parish

Triangle Drilling Co. is drilling at 50 feet in No. 1 Keen, Section 7-19-5, about 10 miles southeast of Homer.

DeSoto Parish

Fortuna Oil Co. is drilling at 3,385 feet in No. 1 Alexandria, Section 32-12-15, 5 miles east of Logansport.

Gulf Refining Co. is drilling in lime at 3,660 feet in No. C-18 Willis Williams, Section 31-13-1, in the old Naborton Field.

Grant Parish

Dowling & McCurry set 10-inch at 80 feet and are down 410 feet in No. 1 Holmes, Section 20-9-1e, 16 miles north of Pollock.

La Salle Parish

Finn & Ball are shut down and waiting on water at 40 feet in No. 1 King, Section 25-10-1e, 3 miles southwest of Urania.

Helm & Burch are drilling in gumbo at 1,499 feet in No. 1 Urania, Section 28-11-2e, 4 miles northeast of Urania.

Imperial Oil & Gas Co. is drilling at 1,785 feet in No. 1 Urania, Section 10-10-2e, 3 miles east of Urania.

Love and others are drilling at 50 feet in No. 2 Tremont Lumber Co., Section 30-10-1e, 6 miles southeast of discovery well.

Zeigen and others are waiting on standard rig at 1,570 feet in No. 1 Hardtner, Section 19-10-2e, offsetting discovery well on the south.

Lincoln Parish

Buckner and others are waiting orders at 2,545 feet in No. 1 Barrett, Section 13-20-3w, 2 miles north of Dubach.

Ruston Drilling Co. is drilling at 2,955 feet in No. 1 Richardson, Section 7-18-2w, 3 miles northeast of Ruston.

Boisseau, R. C., and others are waiting on casing at 50 feet in No. 1 Sullivan, Section 11-21-7e, 10 miles east and a little north of Bastrop.

Ouachita Parish

Southern Carbon Co. is drilling at 800 feet in No. 3 Kerr, Section 12-19-4e, 10 miles northeast of Monroe and in the heart of the Monroe gas field.

Ouachita Natural Gas Co. set 12-inch at 200 feet and is down 700 feet in No. 2 Liston-Waddle, Section 42-20-4.

Natural Gas Producing Co. is drilling at 1,920 feet in No. 1 Johnson, Section 32-20-4e, 12 miles north of Monroe.

Palmer Corp. tested salt water and a little gas at 2,425 feet and are waiting orders at 2,460 feet in No. 1 Jones, Section 6-16-5e, 7 miles southeast of Monroe.

Union Gas & Power Co. set 10-inch at 210 feet and is down 500 feet in No. 1 Lewis, Section 15-19-5e, 9 miles northeast of Monroe.

Sabine Parish

L. M. Emlet is drilling at 1,710 feet in No. 6 Bowman-Hicks Lumber Co., Section 8-7-12, 4 miles northeast of Zwolle.

Toro Petroleum Co. is coring at 1,560 feet in No. 1 Wyatt Lumber Co., Section 18-4-11, 17 miles south of Many.

Rapides Parish

Wheeler & Wilbanks are drilling at 1,300 feet in No. 1 Lanie Oil & Land Co., Section 3-4n-3e.

Union Parish

Jones & Walker are coring at 2,558 feet in No. 1 Feazel, Section 6-19-23.

Winn Parish

Ohio Oil Co. is drilling at 2,600 feet in No. 1 Rowland, Section 5-12-1w, 10 miles northeast of Winnfield.

Arkansas Wildcats
Ashley County

Rhodes & Kirker drilled to 50 feet and shut down for water in No. 1 Bledsoe, Section 20-15-7, 15 miles south of Monticello.

Bradley County

Gulf Refining Co. is drilling at 50 feet in No. 1 Benson, Section 25-15-9, 16 miles south of Warren.

Calhoun County

Genther and others are drilling at 2,225 feet in No. 1 Freeman Lumber Co., Section 25-15-15, 3 miles north of the Smackover Field.

Columbia County

Greason and others are drilling in

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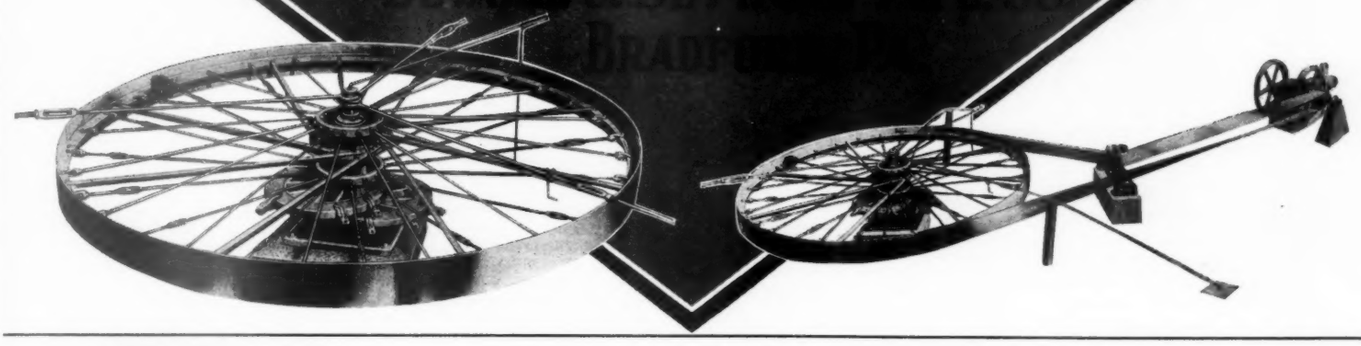

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gumbo at 2,100 feet in No. 1 Pearce, Section 3-18-20, 7 miles southeast of Magnolia.

Gulf Refining Co. is waiting orders at 3,005 feet in No. 1 J. D. Hines, Section 17-17-18, 15 miles east of Magnolia.

Magnolia Petroleum Co. is rigging up to drill No. 3 Rinehart, Section 36-15-20, 9 miles northeast of Magnolia and in the south end of the Stephens Field.

Hempstead County

Tarver and others are drilling in lime at 1,670 feet in No. 1 Swafford, Section 14-11-25, 8 miles northeast of Hope.

LaFayette County

Arkansas Fuel Oil Co. has shut down at 940 feet to repair boiler in No. 1 Allen, Section 18-19-24, 2 miles east of Bradley.

Estes and others are drilling in shale and boulders at 2,750 feet in No. 1 Bodcau, Section 13-18-24, 12 miles south and a little east of Lewisville.

Humble Oil & Refining Co. set 8-inch at 120 feet and is drilling in sandy shale at 980 feet in No. 1 Ford, Section 28-16-24, 2 miles south of Lewisville; drilling at 50 feet in No. 1 Bodcau-Fee, Section 17-16-23, 5 miles east of Lewisville; drilling in shale at 1,280 feet in No. 1 Reed-Bodcau, Section 16-15-22, 13 miles northeast of Lewisville.

Kensaw Petroleum Co. is drilling in gummy shale at 2,735 feet in No. 2 Red River Land Co., Section 3-20-24, just across the Louisiana line and 4 miles northwest of the Springhill district.

Miller County

Clifford Nash is drilling in shale at 2,110 feet in No. 2 Harvey, Section 2-15-26, 15 miles east and a little north of Texarkana.

Coplen and others are drilling in shale at 1,615 feet in No. 1 Wiseman, Section 36-15-27, 10 miles east of Texarkana.

Davidson and others are drilling in lime at 1,700 feet in No. 1 Faulk, Section 20-17-27, 12 miles southeast of Texarkana.

Humble Oil & Refining Co. set 3-inch at 100 feet and pulled derrick in at 485 feet in No. 2 Fouke, Section 2-16-27, 9 miles east and a little south of Texarkana.

Nevada County

Magnolia Petroleum Co. set 12-inch at 200 feet and is drilling at 400 feet in No. 1 B. F. Johnson, Section 3-15-21, 20 miles directly south of Magnolia.

Steele and others are waiting orders at 1,215 feet in No. 1 Fincher, Section 9-15-22, 12 miles northeast of Lewisville.

Cotton Valley District

Fortuna Oil Co. is drilling in shale at 2,830 feet in No. 1 Bible, Section 8-20-10; in gummy shale at 1,500 feet in No. 3 R. R. Cox, Section 15-21--10; has derrick up for No. 4 R. R. Cox, same section; and set 6-inch at 2,598 feet in No. 2 Maynor, Section 34-23-10.

Humble Oil & Refining Co. is drilling in lime at 2,375 feet in No. B-20 Bodcau, Section 15-21-10, and set 6-inch at 2,500 feet in No. 3 Weaver Brothers, Section 25-21-10.

Louisiana Oil & Refining Co. is drilling in lime at 1,700 feet in No. 3 Bodcau, Section 25-21-10.

Ohio Oil Co. set 10-inch at 450 feet in No. 34 Bodcau, Section 15-21-10; tested 12 feet of sand at 2,570 feet in No. 14 Gray, Section 26-21-10; set 6-inch at 2,550 feet in No. 15 Gray, same section.

Palmer Corp. is coring hard lime at 3,915 feet in No. 1 Davis, Section 23-21-10.

Woodley Petroleum Co. has derrick up for No. B-1 Section 27-21-10.

ROCKY MOUNTAIN AREA

(Continued from Page 48)

55,000-bbl. tank at Dayton and the same firm is building houses for its employes there.

Eddy County, New Mexico

The Dome Oil Co., in the Artesia Field, drilled into the pay at 2,135 feet on Section 21-18-28 and will make a producer good for 250 bbls. after a shot. The development now appears to point west and the Arkansas Fuel Co. is drilling a wildcat on the Manning Dome west of Artesia.

While only one completion was reported from Artesia the past week, the field is a busy spot on the oil map and the coming week is expected to see several completions in the pay.

Sunburst's New Boom

Sunburst Field in Montana is having another boom. This field now has over 300 producing wells and last week it brought in another big well doing 1,500 bbls. daily from the Ellis sand. The field is small oil man's heaven for the wells are only about 1,500 feet deep and the drilling is excellent after the drillers have mastered a few odd kinks. Wells are drilled with an open hole except for a few joints of big pipe at the top, clear to the sand, then if they come in producers, a string of casing is run and if dry, the expense is reduced considerably. The number of dry holes is small compared to the number of good wells and the field seems to be spreading out west and south to several times its supposed area. Wildcatters are taking up leases miles in advance of the trend and the coming fall will see a large amount of work there. The supply stores are shipping in extra stocks to take care of the increase in orders.

About 70 wells are now drilling in the field and the past week saw 12 completions ranging from 1,500 bbls. down to 35 bbls. The best well was that of the Rose Oil Co. on Section 31-35-1, which found the Ellis sand at 1,435 feet. The Fulton Oil Co. found a producer good for 700 bbls. on the same section at 1,415 feet and the Signal Hill Oil Co. found a producer that started off at 1,200 bbls. on Section 4-34-2. This last well dropped rapidly, however, and has now settled to about 350 bbls. steady production. On the same section, the Shoshone Oil Co. found a 25-bbl. well in the Ellis sand at 1,475 feet and O'Neil Brothers have a 20-bbl. well on Section 4-35-2 in the Ellis sand at 1,735 feet.

The Continental Oil Co. found a duster on Section 17-35-2, drilling to 1,635 feet and the same company has another dry hole on Section 16-35-2 drilling to 1,575 feet. The Homestake Oil Co. also found a dry hole on Section 33-35-2 and the Rochester Oil Co. drilled in a duster on Section 25-35-2, ceasing work at 1,480 feet.

In the Cat Creek Field, the California deep test on the west end is setting casing and preparing to drill again. This is the 8-inch string. The Gordon Campbell well on the McDonald structure, Section 25-16-25 is through the first Kootenai sand and found nothing in it. The well is now drilling to the second sand.

Fort Collins' New Well

In Colorado, in the Fort Collins Field, the Blunck well of the Union Oil Co. of California is in the Muddy sand and will make a producer. The work of drilling the well in is proceeding very slowly and great care is being taken that the well does not get out of control. The upper part of the sand has been found very hard. The same company is grading for the new gasoline compressor station that is to operate on the gas production of the field and the actual building will start in a few days.

The Scott well of the same company is making oil through the bean at the rate of 1,100 bbls. daily but considerable mud is still in the hole which must be cleaned out carefully before the well is allowed to produce to capacity. This mud is coming through with the flow and is being separated at the surface.

Tax Hearing at Cheyenne

The hearing on the valuation raise of oil property where the oil companies protested to the State Board of Equalization on the raising of the taxes, was held at Cheyenne Wednesday, August 12 and the Midwest and Standard of Indiana were the two firms heard. The protest made by the attorneys and tax men of the Midwest and Standard were strong and covered many points. The board took the matter under advisement and postponed the hearing to a later date. It is expected that the board will give a decision in the Midwest and Standard of Indiana case about the last of the week or the first of next week.

Prairie in Montana

The Prairie Oil & Gas Co. has entered Montana territory through the leasing of some wildcat acreage south of Billings on what is known as the Mifflin Dome. The structure is a new one to many of the oil men and scouts and but little is known about it. Some report that there is a lacolithic rise there that may be what the Prairie men considered a structure. The Prairie has taken up some 3,000 acres on the structure. The nearest production is the deep oil in the Lake Basin Field where the Midwest and Barnsdall interests have some wells that produce a high grade oil but the crude contains so much parafine and is found at such a depth that the field does not look very promising.

Black-Oil Market Is Possible

The black-oil operators of the Rocky Mountain region are watching with interest the negotiations between the coal operators and the coal miners in the East. Should a strike come in the coal regions this winter, the black oil operators are prepared to place large quantities of black oil on the market for fuel. This crude would have to be sold at a higher price than the coal brings as its cost of production is higher, but the oil operators state that once a plant or home places equipment for burning oil, there is small likelihood of a return to coal for with oil there are no ashes, no dirt or smoke and the work is lessened to a very large degree compared to the coal.

KANSAS FIELDS

(Continued from Page 36)

cor. SW SW, Section 19-23-5 for 900 bbls. and this completion brought production on-fourth mile closer to the Barlow test, SW cor. NW, Section 19-32-5.

Greenwood County

The following new operations are recorded in the Golden Lane region in Greenwood County: Pryor & Lockhard have a rig up for No. 1, NE cor. NW Section 7-23-9; Tidal Oil Co. has the rig up for No. 1, SW cor. NW SW Section 8-23-9; Greenland Oil Co.'s No. 15, CSL NE NE SE Section 10-23-9, is a rig; Mission Oil Co. has spudded No. 3, NE cor. SE SW Section 19-23-9; Phillips Petroleum Co.'s No. 1, SW cor. NW SW Section 19-23-9, is spudded; the rig is up for the Empire Gas & Fuel Co.'s No. 3, SE cor. SW SE Section 24-23-8, and the rig is being built for No. 4, NE cor. SE SE Section 24-23-8; Hayes & Robertson spudded No. 4, NE cor. SE NE Section 25-23-8, and the rig is up for No. 6, CSL SW NE NE Section 25-23-8; Sinclair Oil & Gas Co. and others have spudded No. 1, NE cor. NW Section 36-23-8.

Skelly Oil Co. and the Emerald Oil Co. are drilling at 835 feet in No. 5, CSL NE NW NE Section 15-23-9; Phillips Petroleum Co. is drilling at 490 feet in No. 4, NE cor. SE SW Section 15-23-9.

Other first reports in Greenwood County are: Syndicate Oil Co.'s No. 1, NW cor. SW Section 1-22-10, which is drilling at 450 feet; Titus and others' new rig No. 11, C N half N half NW Section 29-22-10; Mission Oil Co. has spudded No. 1, NE cor. NE Section 16-23-10; Mid-Kansas Oil Co. is drilling at 200 feet in No. 32, NE cor. NE Section 31-23-10; White Eagle Oil Co. has the rig up for No. 8, CSL NE SW NW Section 12-22-11; Empire Gas & Fuel Co. is drilling at 580 feet in No. 5, CSL NE NW NE Section 14-22-11; York State Oil Co. has the rig up for No. 30, NW cor. NW Section 32--22-11, and has a machine in for No. 7, CSL NW Section 33-22-11.

Greenwood Completions

The production of Greenwood County was swelled by the completion of the following wells: Greenwood Oil Co.'s No. 11, NE cor. SE NE Section 10-23-9, which had sand at 2,312-46 feet and made 400 bbls. after a shot of 100 quarts; No. 12, CSL SE SW SE Section 10-23-9.

which topped sand at 2,325 feet and had gas at 2,330 feet, and a little water at the total depth of 2,393 feet. The well was plugged back to 2,389 feet and is good for 75 bbls. Mission Oil Co.'s No. 2, CWL NW NW Section 30-23-9, had oil at 2,553-55 feet, total depth 2,559 feet. The well is good for 35 bbls. after a shot of 25 quarts, but is making a lot of water. Empire Gas & Fuel Co.'s No. 2, CSL SE SE Section 24-23-8, had sand at 2,572-2,612 feet and was shot with 110 quarts. It made 450 bbls. the first day. Pryor & Lockhard have completed No. 5, NE cor. SE SE, Section 13-22-10, for 120 bbls. after a shot of 80 quarts in sand 2,101-26 feet.

Theta Oil Co.'s No. 11, NE cor. NW NE Section 17-22-10, is completed. Sand was 2,278-2,334 feet. The well was shot with 60 quarts and is good for 40 bbls. Murphy and others' No. 6, NW cor. SW SW Section 2-23-9, had the sand at 2,350-2,400 feet and was given a shot of 100 quarts. The hole bridged and was cleaned out and the well swabbed 400 bbls. Sheedy and others' No. 4, NW cor. NE NW Section 11-23-9, had the pay sand at 2,336-61 feet. The well was shot with 10 quarts and has 1,900 feet of oil and some water in the hole. It is estimated at 60 bbls. Roth and the Mission Oil Co. have a duster in No. 3, CSL SE SE Section 22-23-10, at a total depth of 2,343 feet.

Empire Gas & Fuel Co.'s No. 2, SW cor. NW SW Section 12-22-11, had sand at 1,770-1,819 feet. It was shot with 230 quarts and has 600 feet of oil in the hole. The well is being cleaned out. York State Oil Co.'s No. 12-C, NE cor. NW NW Section 32-22-11, had the top of the sand 1,966 feet and the pay at 1,981-2,007 feet. It was shot with 120 quarts and is good for 300 bbls. Jennings and others' No. 6, CSL NW SW SE Section 33-22-11, had sand at 1,896-1,928 feet and is good for 75 bbls. Buck and others have a dry hole in No. 1, SE cor. NW Section 19-23-12. It is abandoned at 1,920 feet. Braden Brothers' No. 3, SW cor. NW NE Section 27-22-13, had the top of the lime at 1,830 feet, the pay 1,857-57 feet, and a total depth of 1,874 feet. The well is good for 10 bbls. after a shot of 40 quarts.

In the east side of the county, Reeser and others have a machine in for No. 1, NE cor. NE Section 11-25-10. Paul Smith and others have a rig up for No. 1, SE cor. NW Section 19-24-11. Peerless Oil Co. and others are drilling at 500 feet in No. 1, SW cor. SE Section 31-24-11.

C. & C. Leasing Co.'s No. 2, CEL SE SE Section 36-25-12, is drilling at 575 feet. Beacon Oil Co. has a dry hole in No. 1, CEL NE SE Section 14-26-9, at a total depth of 2,604 feet.

Sheedy and others have completed No. 3, SW cor. NW NW Section 11-23-9. It is good for 25 bbls. after a shot of 100 quarts in sand at 2,290-2,350 feet.

Hays, Robertson is rigging up No. 5, C N half NW NE Section 25-23-8. Davis, Hazlett and others have built the rig for No. 1, NW cor. NW Section 22-23-9. The rig is up for Titus and others' No. 2, SE cor. NW NE Section 30-22-10. Roth Faurot and the Mission Oil Co. have spudded No. 1, NE cor. SW NW Section 19-23-10. Mississippi Valley Oil Co.'s No. 1, SE cor. SW SE Section 14-25-10, is drilling at 1,900 feet. Morgan & Moore have spudded No. 1, CSL SE SE NE Section 8-27-10.

Cowley County

Southeast of Winfield the Mississippi Valley Oil Co. has a rig on the ground for No. 1 NE cor. NE Section 31-33-6.

The Southwestern Petroleum Co. has a failure in No. 1 SW cor. NW SW Section 17-31-6. It is abandoned at 3,003 feet and had a dry sand at 2,872-85 feet.

In the old Winfield Pool the J. A. Hull Co. has completed a splendid well, No. 9 NE cor. NW SE Section 24-32-4. Sand was 2,962-3,047 feet with the first oil at 2,997 feet and a hole full of oil at 3,047 feet. The well was shot with 240 quarts and flowed 50 bbls. the first hour. It is estimated at 400 bbls.

In the Trees Pool, the Trees Oil Co.'s No. 2, NW cor. NE SE Section 10-31-3 had sand 3,017-37 feet, total depth 3,042 feet. The well was shot twice with 30 quarts each time and is estimated at 75 bbls.

In the Oxford Pool T. B. Slick has spudded No. 5, NW cor. SE NE Section 19-32-3.

The Arkansas Fuel Co. has a dry hole in No. 3, NW cor. SW SW Section 7-32-5. Total depth is 3,502 feet.

In the Graham Pool the Marland Oil Co. has completed No. 6, SW cor. SE NW Section 10-33-3. The well is making 90 bbls. on the swab from sand 3,496-3,505 feet.

The following operations are in the Rainbow Bend Pool owned jointly by the Waite Phillips Co.-the Marland Oil Co.-the Independent Oil & Gas Co.'s No. 3, SW cor. SE SE Section 17-33-3; No. 4, SE cor. SE Section 17-33-3, new rigs; No. 2, SE cor. SW SE Section 17-33-3, is drilling at 650 feet; No. 8, SE cor. NW SW Section 21-33-3, is drilling at 440 feet; No. 2, NW cor. SE SW Section 21-33-3, is spudded; No. 6, SW cor. NE NW Section 28-33-3, is drilling at 417 feet. The following wells have been completed: Number 6, NW cor. NE NE Section 20-33-3, made 695 bbls. the first day from sand 3,187-3,205 feet; the first flow was made at 3,186 feet; No. 15, SE cor. NW NE Section 20-33-3, had sand 3,181-3,208 feet, total depth 3,209 feet in chat, the well made 98 bbls. naturally and was shot with 7 quarts which put 300 bbls. into the tank the first day; No. 16, NE cor. NW NE Section 20-33-3, had the sand 3,181-3,209 feet with the first gas at 3,185 feet and the first oil 3,191 feet. The well did 493 bbls. the first day after a shot of 7 quarts.

The Phillips Petroleum Co.'s No. 57, CSL SW SE SE Section 8-35-7, is shut down at 870 feet.

Marion County

Phillips Petroleum Co. has a dry hole in No. 1, SE cor. NE SW Section 16-22-5. The hole is declared dry and abandoned at 2,702 feet.

Sedgwick County

Joe Liggett and others have a duster in No. 1, NE cor. NW Section 11-26-1. The well is a failure at 3,185 feet.

Hartman & Skear have spudded No. 1 NW cor. SW Section 17-29-1.

Butler County

The chief scene of activity in Butler is in the northwest part of the county. The Vickers Petroleum Co. has a rig on the ground for No. 2, SW cor. NW SE Section 12-24-3. Connell and others have a rig on the ground for No. 1, SE cor. NW Section 12-24-3. Empire Gas & Fuel Co.'s No. 155, SW cor. SE NW Section 8-25-5, is an old well to be drilled deeper. Old total depth is 2,955 feet. Leonard Oil Co. has spudded No. 4, SW cor. NE NE Section 32-26-5. Harwood & Winters have moved in a rig for No. 1, CSL SW SE SE Section 27-24-7, and have spudded No. 1, SW cor. SW Section 35-24-7. Leggett and others have spudded No. 1, SW cor. SW Section 24-25-7. Transcontinental Oil Co. and others have rigged up No. 1, NW cor. NW Section 30-25-7.

Vickers and others have completed No. 1, NW cor. SE Section 12-24-3. Top of sand was 2,485 feet and the pay found at 2,487 feet in chat. Total depth is 2,488 feet. The well is flowing 375 bbls. natural. Empire Gas & Fuel Co.'s No. 26, SW cor. SW Section 20-25-5, had the sand 2,467-81 feet with 2,300 feet of oil in the hole. The well is estimated at 120 bbls. and is making quite a little water. Ramsey and others' No. 1-A, CWL SW NE Section 8-26-5, had sand 2,398-2,435 feet, total depth with the first oil at 2,413 feet. The well made 125 bbls. after a shot of 80 quarts.

C. E. Roth is drilling at 600 feet in No. 6, SE cor. SW SE Section 33-29-8. Transcontinental Oil Co. has a hole full of water in No. 1, NW cor. NW Section 30-25-7, at a total depth of 780 feet. Branson and others' No. 1, NE cor. SE NE Section 5-27-6, had sand 2,790-2,806 feet and water at 2,809 feet. The well is swabbing 25 bbls. after a shot of 40 quarts. They are preparing to case off and drill deeper. Davis and others' No. 1, SE cor. NE Section 30-26-8, had sand 2,650-67 feet, and gas 2,670-83 feet. The well is spraying 5 bbls. an hour and is being prepared for a shot.

GULF COAST

(Continued from Page 38)

3,300 feet. No. 11 Deussen is at 2,810 feet. No. 3 Antonio is at 1,455 feet. The Associated Oil Co.'s No. 4 Deussen is at 3,255 feet and No. 5 below 2,250 feet. The Sinclair Oil & Gas Co.'s No. 4 Condict is drilling around 3,065 feet and No. 5 Condict is below 2,280 feet.

In the Hull Pool, the Humble Oil & Refining Co.'s No. 2-A Abel is pumping 25 bbls. at 1,800 feet. The Gulf Production Co.'s No. 12 Phoenix, a workover, will make a pumper at 2,000 feet. The Humble Oil & Refining Co.'s No. 3 Guidry is bailing at 4,125 feet and the Yount-Lee Oil Co.'s No. 13 Merchant is doing the same at 4,260 feet.

The Republic Production Co.-Houston Oil Co.'s joint Nos. 20 and 86 Dolbear 800 acres are working over and No. 117 Dolbear is drilling at 2,600 feet. The Humble Oil & Refining Co.'s No. 9 Guidry is drilling around 2,725 feet. The Peer Oil Co.'s No. 8 Harrison is below 850 feet.

The Gulf Production Co.'s No. 54 Phoenix is drilling at 3,610 feet and No. 55 at 2,876 feet with No. 57 rigging. No. 10 Baldwin is deepening. The Mecom Oil Co.'s No. 4 Taylor is at 3,915 feet with No. 6 working over. The Higgins Oil & Fuel Co.'s No. 6 Taylor is drilling around 3,165 feet. A derrick is up for No. 6 joint Hannah by The Texas Co. and Vacuum Oil Co. The Yount-Lee Oil Co.'s No. 7 Stengler is idle.

Orange Pool

The Sun Oil Co.'s No. 4 Gunstream in the Orange Pool bailed salt water at 3,950 feet. The Continental Oil Co.'s No. 6 Chesson, deepened, is swabbing salt water at 4,675 feet. The Peer Oil Co.'s No. 5 Galliere is bailing at 3,410 feet.

The Gulf Production Co.'s No. 3 Hammam-Consolidated is around 5,000 feet. The boiler furnishing steam for the rotary on this well exploded. The fireman, J. J. McFarlain, was seriously injured. Gulf Co.'s No. 2 Hager fee is at 4,200 feet and No. 10 Peveto is around 4,915 feet. The Sun Oil Co.'s No. 1 Johnson is at 4,235 feet. The Brownie Babbittee Oil Co.'s No. 3 McLean is working over. The Sinclair Oil & Gas Co.'s No. 1 Turner is drilling around 2,655 feet. The Rycade Petroleum Co.'s No. 2-B Cow Bayou is at 3,224 feet and No. 1-C is drilling around 2,465 feet. The Humble Oil & Refining Co.'s No. 12 Winifree is drilling at 4,019 feet. No. 22-A Chesson is washing to the bottom at 3,160 feet and No. 19-A is drilling below 4,200 feet. The Edgerly Petroleum Co.'s No. 11 Carbello is around 3,135 feet. No. 1-B Carbello is at 3,510 feet. The Orange Petroleum Co.'s No. 5 Winifree is at 3,986 feet and No. 6 Chesson is below 3,655 feet. The Kishi Development Co.'s No. 6 McGuire is pulling liner at 3,390 feet. The Atlantic Oil Producing Co.'s No. 4 Moore is deepening at 2,675 feet.

Hardin County Pools

In the Sour Lake Pool, the Lake View Oil Co.'s No. 6 Minor abandoned at 3,010 feet. The Eagle Point Oil Co.'s No. 1 Jackson is bailing at 2,175 feet.

Ebbert and others' No. 3 Jackson is rigging up to start. The Humble Oil & Refining Co. has a derrick up for No. 19 Bashara. The Lake Graham Oil Co.'s No. 18 Bashara is drilling at 3,045 feet. The Yount-Lee Oil Co.'s No. 4 Jackson is shut down at 2,250 feet. The McNamara Oil Co.s No. 13 Bashara is drilling around 350 feet.

In the Saratoga Pool, the Vacuum Oil Co.'s No. 1 Teel is drilling at 3,035 feet. The Fountain Oil Co.'s No. 3 Ogden is at 455 feet. Paggi Brothers' No. 7 Lewis is around 1,065 feet. The Skinner Oil Co.'s No. 1 Parrish and Rio Bravo Oil Co.'s No. 1 Fountain on the north side, are both shut down at 3,265 feet and 3,310 feet respectively.

In the Batson Pool, Amderson & Munson's No. 2 Hodges has dropped down to

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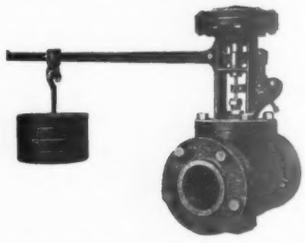

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125 bbls. by heads. It was reported last week with an initial flow of 1,500 bbls. at 3,900 feet but declined rapidly to 500 bbls. and has been falling off. It is on the north side of the district where other deep sand wells have been developed but did not last. The Paraffine Oil Co.'s No. 42 Knight is pumping 5 bbls. at 450 feet. S. R. Buchanan's No. 83 Milhome will pump at 1,050 feet.

The East Batson Oil Co.'s No. 9 Donohoe is drilling deeper at 1,235 feet.

Harris County Pools

The Southern Petroleum (Peer Oil) is working over an old hole on the Landslide in the Humble Pool and has a derrick up for No. 46. Frank Long is rigging No. 1 Sun's Riverside sublease. Joe Long is deepening No. 3 Burt. Ten wooden lease tanks on the Landslide property belonging to The Texas Co., and their contents were destroyed by fire during the week. About 2,200 bbls. of oil was lost. The flames started from burning underbrush which communicated to the tanks.

In the Goose Creek Pool, the Gulf Coast and Crown Central Oil Co.'s joint No. 6 Galliard, a work over, is bailing water at 3,000 feet. The Humble Oil & Refining Co. has a gasser making some oil on the east side of the Smith tract.

In the shallow waters of Trinity bay, the Gulf Production Co.'s No. 11 State land is drilling deeper at 2,225 feet. No. 31 State land is around 2,455 feet. No. 32 Beaumont is around 1,235 feet. The Southern Exploration Co.'s No. 6 Freeman is drilling at 2,786 feet. Gulf Co.'s No. 10 Chapman-Bryan is drilling at 4,455 feet on the east side of Goose Creek and the Humble Oil & Refining Co.'s No. 4 Harrell on the west side, is around 4,155 feet. The Norman Bruce Petroleum Co.'s No. 1 Scorrgea, north of production, is drilling around 1,655 feet.

At Pierce Junction, the Gulf Production Co.'s No. 17 Taylor is drilling at 3,734 feet. The Rio Bravo Oil Co.'s No. 1 Settegast on the northwest side, is at 3,235 feet.

Fort Bend County Pools

At Blue Ridge, The Gulf Production Co.'s No. 12-C Blakely is drilling around 2,634 feet. The Texas Co.'s No. 13 Robinson is below 3,615 feet.

At Big Creek, the Gulf Productioon Co.'s No. 23 Davis is a 50-bbl. well at 2,830 feet. No. 24 Davis is rigging to start drilling.

Brazoria County Pools

At West Columbia, the Hmble Oil & Refining Co.'s No. 2 Wilson on the west side of the dome, is making 250 bbls. by heads at 3,800 feet. It blew in as a gasser and later started flowing. The completion was too late to be included to be in the summary table and increases the production of the Coastal region to 1,910 bbls. for the week. The Hyde Production Co.'s No. 1 Lee is deepening at 2,410 feet.

The Damon Mound Pool is a blank this week.

Other Pools

At Markham, the Powers Production Co.—Moody & Seagraves' joint No. 3 Myers is a gas well at 2,100 feet. The Rycade Petroleum Corp.'s No. 3 Gray got salt water at 3,380 feet and is drilling deeper. The Barnsdall Oil Co.'s No. 1 on the northwest side is around 4,500 feet.

In the Spindletop Pool, Thomas and others have a derrick up for No. 1 Gladys. The Lillian Oil Co.'s No. 1 Tyrell is drilling around 900 feet. The Unity Oil Co.'s No. 49 Star is at 655 feet. The Stella Oil Co.'s No. 7 Keith-Ward is shut down at 1,045 feet. The Lotus Oil Co.'s No. 1 Gladys is drilling at 423 feet. The Gulf Production Co.'s No. 214 Gladys is drilling at 965 feet.

At High Island, Galveston County, the Sun Oil Co.'s No. 8 Cade is drilling at 3,475. The Island Oil Co.'s No. 1 McCarthy is at 2,140 feet. The Gulf Production Co.'s No. 3 Smith on the south side of the dome and near the Gulf of Mexico, is drilling at 1,608 feet with a derrick ready for No. 4 Smith.

Vinton (La.) Pool

The best well in the entire Coastal region was in the Vinton Pool early in

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Just because the Norris Clutch-Type Standing Valve Puller is a small, inexpensive item is no reason to overlook or delay its advantages. Six hundred per cent investments have a right to be looked into regardless of size; as small bricks build big houses, so do savings in smaller operations, when placed together, make big profits.

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the week when The Texas Co.'s No. 2-A Gray came in flowing 1,000 bbls. at 3,810 feet. It is a deep sand producer for that pool. The Vinton Petroleum Co.'s No. 2 Gray is making 150 bbls. at 2,410 feet. Marrs McLean's No. 4 Gray is bailing at 1,785 feet. It is a workover. The Edgerly Petroleum Co.'s No. 6 Vincent is heading 150 bbls. per day at 3,250 feet.

The Gulf Refining Co.'s No. 40 Vincent is drilling at 3,170 feet and No. 41 at 655 feet. No. 64 Gardner Noble and Gray lease is drilling around 1,170 feet. The Vinton Petroleum Co.'s No. 16 Vincent is at 2,985 feet. The Edgerly Petroleum Co.'s No. 7 Vincent is at 2,415 feet. The Just Oil & Refining Co.'s No. 2 Lyons is drilling at 3,155 feet. The Texas Co.'s No. 1 Joynt is at 1,335 feet. Wilson and Broach's No. 9 Parks is around 1,185 feet.

Miscellaneous

The runs of the Magnolia Petroleum Co. from the Luling Field during July total 230,518.33 bbls. The runs from the Lockhart Field by the same company for July were 164,826.91 bbls.

A total of 17,743 bbls. were gathered in the Laredo districts by the Magnolia lines during July.

The Crown Central Oil Co.'s No. 1 Las Albercas in Webb County is a gas well at 1,720 feet. It is estimated at 35,000,000 feet.

NEW MEXICO FIELDS

(Continued from Page 34)

refinery to handle the output of the Artesia Field. The company recently bought leases and wells of the Gilliland Oil Co. in that area about the time the Illinois Pipe Line Co. acquired the Gilliland Pipe Line Co.

To the south, three carloads of equipment for the Pure Oil Co. arrived at Carlsbad during the week for its test well, 45 miles southwest of that city. The company is making headquarters at Carlsbad. It is also reported it will drill a number of wells in southeastern New Mexico.

The White Oil Co. has started drilling No. 1 Franks, in the SW of the SW of Section 25-11-26. It is 14 miles east of Roswell, and drilling will be done with a standard rig and cable tools.

Drilling Report

George Bobb's No. 1 on the Thompson permit in Section 18, drilling at 150 feet; No. 4 in Section 19, location; Braden Oil Co., drilling below 2,200 feet; Hugh Burch's No. 1, drilling at 540 feet; Colorado Drilling Co.'s No. 1 Irvin, no report; California's No. 1, A. R. Goodale permit, shut down; Daugherty's No. 1 Ohio New State, erecting new rig; Danciger Oil & Refining Co.'s No. 2, drilling at 1,950 feet; No. 3, drilling below 1,300 feet; No. 2 Section 18, drilling below 1,070 feet; No. 2 moving rig; Danciger's No. 2 Kaseman, spudding; Dome Oil Co.'s No. 2, spudding; Flynn, Welch & Yates' No. 16, below 1,200 feet; No. 21, on production; No. 22, drilling at 1,200 feet; Fletcher & Agnew, on Flynn, Welch & Yates' acreage, setting 10-inch casing at 400 feet; Hogan California's, Reiff No. 1, preparing to resume drilling below 1,850 feet; Keeley No. 1, gas blow out at 450 feet; Monita No. 1 Cronin permit, drilling below 2,025 feet; Marland, Hogan, Johnson No. 1, drilling below 2,000 feet; Maloney Chambers, Daugherty No. 2, drilling below 2,400 feet, reported near pay; Maljamar No. 7, 550 feet west of No. 6, drilling below 1,925 feet; No. 8 drilling below 1,925 feet; No. 9, drilling ing at 300 feet. Mesa Oil Co.'s No. 1, drilling below 1,100 feet; Ohio Oil Co.'s No. 1 Tracey permit, no report; No. 1 McCullough permit, below 1,800 feet. Toomie Allen No. 2, drilling at 1,600 feet; Ohio-Johnson permit, drilling below 300 feet; Ohio Oil Co., Toomie Allen No. 3, below 500 feet; No. 4 drilling at 700 feet; No. 2 Gilliland, drilling, no report; Pioneer Oil & Gas Co., below 600 feet; Quillan, Dill Brothers, drilling below 400 feet; A. H. Ramage No. 1, drilling at 1,200 feet; Snowden-McSweeney No. 1, drilling below 2,590 feet in very hard lime; No. 2, Section 33, drilling at 1,900 feet; No. 4, drilling at 400 feet; No. 5, rigging up; Sandburg & Fisher, cleaning out after shot; Thompson and Workman, below 2,000 feet; Texas Production Co.'s No. 2 Levers, drilling below 1,250 feet; V. K. F. Oil Co.'s No. 2, drilling below 2,100 feet; No. 3, drilling below 1,950 feet; Williams Petroleum Co., rigging up No. 2.

Lea County

J. S. Covert's No. 1, spudded in; Holmes' No. 1, drilling below 1,000 feet; Croft No. 1, drilling below 950 feet; Ward No. 1, has resumed drilling; Pecos Petroleum Syndicate No. 1, formerly the Fenton well, drilling; Ross No. 1, drilling, 880 feet.

Chaves County

Arkansas Fuel No. 1 Manning Dome, drilling, 1,200 feet; Lewis and others' No. 1, rigging up standard derrick; Standard of California's No. 1 Hagerman ranch, setting casing at 3,022 feet; Buffalo-Roswell's No. 1, drilling at 3,210

(Continued on Page 139)

LEGAL

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Oil rights on 720 acres of valuable producing property in the Vernon Pool, Kay County, Oklahoma, and gas rights on 160 acres of same property; two producing oil wells approximately 50 bbls. per day production; two producing gas wells with open flow of 1,250,000 cubic feet daily; together with equipment of said wells and leases. Also rig, casing and equipment of two wells drilled to 1,910 feet and 3,240 feet, respectively.

I am ordered by the District Court to sell this property at public sale to the highest bidder for cash at 10:00 o'clock a.m. Tuesday, the 25th day of August, 1925, at the Court House at Newkirk, Kay County, Oklahoma, subject to confirmation by the Court. Particulars on request.

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BARTLESVILLE—Robt. Camblin, 21.
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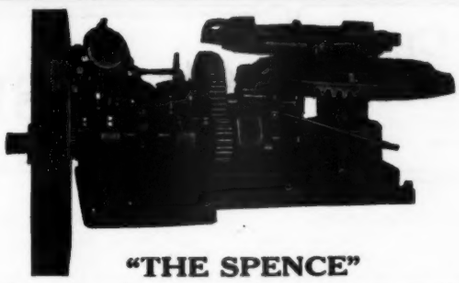

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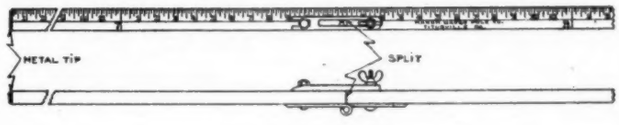

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Unusually large year round demand for refined products, making it possible to market entire output locally. The price is right and terms liberal. Wire or write T. J. Holmsley, Box 835, San Benito, Tex.

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Three wells starting on structure. Exceptional opportunity to buy high-class royalties. Quick action necessary.
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WEST TEXAS Marathon Fold oil leases. Personal investments since 1919. Write for data and maps. Paul Konz, P. O. Box 291, Fort Worth, Tex.

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CLASSIFIED WANTS SECTION

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ADDRESS EOPSOMA
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OPPORTUNITY for lease syndicates, oil companies, brokers and speculators to acquire choice acreage on Comanche Dome in Pecos Valley of Southeast New Mexico before completion of first well. We own leases on structure being tested by several wells. Special offering 1 000 acres including 80-acre offset for $3,500. New Mexico Land & Development Co., 760 Gas & Electric Bldg., Denver, Colo.

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Marathon Fold—West Texas

12,000 acres University Permits, Pecos County, dated October 1, 1924, 5 years. The new law makes these permits most attractive. Can be subdivided into 40-acre tracts. Near Sun, Gulf, Dixie, California Company, Phillips, Arkansas Fuel, Humble holdings.

10,000 acres Crockett County. Large and small blocks; adjoining big companies; scattered wildcat; also close-in adjoining World well block.

20,000 acres. 10-year leases; low rentals; Terrell County. Getting good play. Watch this county. Prices right.

5 000 acres Upton County. Scattered tracts; blocks for drilling.

60,000 acres, one block Southeast Pecos County, on geological formation. Most attractive as to desirability, price and terms.

2,000 acres, Irion County, 10-year lease; watch the new work here.

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Write for prices and maps. Will allow time for geological inspection.

C. W. WEBSTER
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Reference Mercantile Agencies

FOR SALE—20 acres in fee, section 27-18-23, Ellis County, Oklahoma. Stephen Stephens, 4549 Westminister Place, St. Louis, Mo.

WE OFFER you the most attractive prices on Leases in New Mexico. Business investments that will pay from 20 to 75 per cent on every dollar. Alfalfa Farms, Cotton Farms. Free maps of New Mexico oil fields. Sadler Investment Co., Artesia, N. M.

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ONE TO FIVE ACRE tracts near Wisdom Dome, Fort Bend County, Texas. Rycade has three rigs running $250 per acre; safe bet. Frank Mashek, McAllen, Tex.

ATTENTION

Lease Dealers

Write me immediately for
full particulars on

Splendid New Mexico Oil Acreage.
Near well location.

Attractive proposition for dealers.

V. E. "JIGGER" STANLEY
Ferguson Building, Denver, Colo.

WANT TO SELL 40 acres oil and gas lease; $35 acre, Section 36-8-5, Seminole County, near drilling well. J. A. Crow, Route 3, Maud, Okla.

FOR PANHANDLE oil leases and drilling contracts write Dr. W. R. German, Canadian, Texas.

LEASES—PRODUCTION

FOR SALE—LANDS

Attention Oil & Gas Prospectors

The United Lands Co., Inc., own the following land in Louisiana:

In Ascension Parish	8,495 Acres
St. James Parish	235 Acres
Winn Parish	100 Acres
Above lands crossed by L. R. & N. R. R.	
Avoyelles Parish	89 Acres

The Empire Gas & Fuel Co. paid a large rental on the Ascension and St. James Parish lands, drilled two wells and abandoned their lease.

It takes cash and courage to drill 13 dry holes as at Urania, but the 14th struck oil, and it is possible, if not probable, that oil and gas does underlie this Ascension land and that other or deeper wells if sunk may richly reward the effort. One artesian well on this property has flowed for 14 years and is still flowing natural gas.

The Ascension and St. James land is largely cut over swamp land in a solid body, has 16 houses thereon and a five-acre orange bearing grove. Will sell land and improvements, reserving mineral rights, or will lease for oil and gas development.

The Winn Parish tract near Atlanta, La., is high land and not far from the Urania Field.

The land in Avoyelles is cut over swamp, located near the town of Cottonport on Texas & Pacific R. R.

Disposal of land holdings as an entirety is preferred. Call or address

UNITED LANDS CO., INC.

402 Whitney Central Bldg.

New Orleans, La.

LEASES—PRODUCTION

OIL LEASES and Royalties, Seminole, Pottawatomie Counties. Communicate with I. H. Townsend, Konawa, Okla.

OPPORTUNITY

I am just starting a 4,000-foot test for oil in Graham County, Kansas. This well is all financed to go this depth with heavy California rotary rig and is on good looking structure. I have some close-in and other leases for sale or will sell interests in some of the leases at attractive prices. Get in while these prices are low. Address P. O. Box 876, Kansas City, Mo.

OIL PRODUCTION WANTED

OIL SALES—Valuations, management, development and operation of properties in all leading fields. Karl F. Divener, 912 N. Lincoln Ave., Pittsburgh, Pa.

THE OIL and Gas Journal is read in Peru, China, Africa, Guatemala, Egypt, Alaska, Persia, Roumania, Spain, Switzerland, Czecoslovakia — everywhere. In fact wherever there's oil, there are men reading The Oil and Gas Journal—"The Oil Man's Bible."

HAVE SEVERAL pieces of flush and settled production for sale in Wichita Falls district. Prices very reasonable and terms can be arranged if necessary. Address R. L. Steiner, P. O. Box 1144, Dallas, Tex.

PRODUCTION — 65 barrels Kansas shallow, first class. Box 653, Kansas City, Mo.

SOUTH TEXAS oil leases and drilling contracts on good structure. Write us for full particulars and tell us your wants. Gulf Leasing Co., 525 Brady Bldg., O. C. McLeod, Mgr., San Antonio, Tex.

PATENTS

PATENT-SENSE—Free book for inventors seeking largest deserved profits. References include prominent oil men. Write Lacey & Lacey, 718 F. St., Washington, D. C. Established 1869.

POSITION WANTED

REFINERY manager or superintedent desires connection with reliable company. Can supervise construction, understand refining in all its phases, namely, toping, lubs, waxes, compounds and cracking. Maintaining low refining cost and high plant efficiency. Address Box A-893, The Oil and Gas Journal, Tulsa, Okla.

OIL GEOLOGIST and statistical graduate of well known university. Desires position with oil company or brokerage house; field experience in the Mid-Continent. Successful record of forecasting and analyzing all oil securities for large statistical organization. References and details on application. Box A-881, The Oil and Gas Journal, Tulsa, Okla.

WANTED — Position as pipe line superintendent or assistant. Desire connection with growing company. Sixteen years' experience, best of references furnished. Services now available. Box A-880, The Oil and Gas Journal, Tulsa, Okla.

EXPERIENCED LEASE foreman wants position with reliable company. Have had 14 years experience in the field. Also experienced in carpenter and concrete work, installing engines and trouble shooter. Married. References. For further information, address 18 N. Lawton, Tulsa, Okla. Phone 2-1230.

CHEMIST—University graduate with 10 years experience in practical refinery work—thorough plant supervision and laboratory control—development and research—economical distillation and treatment for all finished products—grease make—efficient handling of plant and men. Good references. Address Box A-891, The Oil and Gas Journal, Tulsa, Okla.

Additional Classified Want Advertisements on following page

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

MAIL your advertisement now. It will be published next week. Cash with order.

(Continued from preceding page)

POSITION WANTED

JOB WANTED—Young man, 35; university graduate, with considerable leasing experience wants job with reliable oil company in land department where there is opportunity for advancement as reward for faithful service. Address Box A-890, The Oil and Gas Journal, Tulsa, Okla.

YOUNG MAN, experienced in land and lease departments, wants position in land department or in field. A-1 reference. Telephone 534, Box 716, Okemah, Okla.

OIL ACCOUNTANT and office manager with eight years' experience in the oil business, both field and office, wants connection with reliable progressive company where ability and hard work will mean future advancement. A high-class young man who possesses the aggressiveness and personality to make a success of whatever he undertakes. Now employed but prospects limited. Box A-867, The Oil and Gas Journal, Tulsa, Okla.

REFINERY BUILDER AND OPERATOR

Experienced, practical constructor and operator, 17 years in petroleum industry, good executive and organizer, low construction and operating cost; desire connection with established company or someone intending to start in the refining business. Can take full charge. Box A-855, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

EXECUTIVE, ENGINEERS, $3,000-$25,000, find our individual, confidential service effective in making new connections. Personally conducted by Mr. Jacob Penn, the eminent employment authority, known to leading business men throughout America. Not employment agency. Jacob Penn, Incorporated, 305 Broadway, New York City, N. Y.

WANTED

WANTED—Capital or drilling outfit to drill test well on large acreage in Fish Creek anticline, 7 miles south Ryegate, Montana. Write Geo. M. Lidster, Harlowton, Mont.

SAINT JAMES SCHOOL. Episcopal. Home school for boys of the grades. Military and honor system. Individual attention. All sports; parental care. Address F. E. Jenkins, Headmaster, Box T, Faribault, Minnesota.

SECOND HAND pipe threader; lathe; without power. Oil Lease Supply Co., Scottsville, Ky.

WANTED — Information regarding zinc, lead, antimony, bauxite, sulphur, gold, silver deposits, and oil structures in Oklahoma and Texas. Box A-463, The Oil and Gas Journal, Tulsa, Okla.

IN READING The Oil and Gas Journal you will be taking the best means possible to keep yourself acquainted with the progressive developments and changes that are continually going on within the industry.

WANTED RELIABLE COMPANY or individual for development for oil and gas. Shallow drilling, new sections. No rank wildcatting in Penna. Box A-870, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Producing royalties, Oklahoma and Kansas. Give full details. P. O. Box 502, Independence, Kans.

BUSINESS OPPORTUNITY

FOR SALE

Retail and bulk sales service filling station with railroad siding for three cars. Modern and strategic location on National Highway. Address T. H. Stoffel, St. Clairsville, Ohio.

FISHING LOST TOOLS by latest patented process, guaranteeing results within 24 hours, G. J. Tremayne, 1011 Chestnut St., St. Louis, Mo.

WILL DRILL for commercial oil if any on your land or no pay, or will lease
H. L. HERRICK
117 W. 3rd St. Long Beach, Calif.

AN OPPORTUNITY—Will give an interest in well, 500 acres, close to drill site and a mortgage on good rotary rig, for finances to complete well now down 3,000 feet to 3,750 feet; good geology. Box A-896, The Oil and Gas Journal, Tulsa, Okla.

SHALLOW Kansas production would trade for Florida land. Address Production, 301 E. 7th Avenue, Tampa, Fla.

WANTED—Oil production in exchange for Penny Arcade, shooting gallery and post card studio. Fine city; same location 15 years; always made money; would invoice $10,000; stands close investigation. A chance to get a good business in growing city. Will take or give difference. Slater's Arcade, 426 Superior St., Toledo, Ohio.

SOUTH of Luling, Tex., 5,000 acres, high-class geological survey, sent on request; want some one to finance drilling. J. W. Flournoy, Cuero, Tex.

WE WILL buy diamonds (Brazilian carbons); also Star, Rotary or cable oil well drilling tools. St. Louis Exploration Co., 5790 Kingsbury Place, St. Louis, Mo.

DRILLING PROPOSITION—Have 4 blocks of leases of 500 acres each in Ohio County, Kentucky, which I will give for a well on each block with small interest carried in first well on each block. Drilling not over 700 feet with 3 oil sands. For quick action address C. T. Johnston, P. O. Box 346, Owensboro, Ky.

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Sell to the world-wide billion-dollar petroleum industry through The Oil and Gas Journal Classified Wants Section.

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	1 Time	2 Times	3 Times	1 Mo.
3 lines	$ .75	$1.20	$1.65	$2.10
4 lines	1.00	1.60	2.20	2.80
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6 lines	1.50	2.40	3.30	4.20
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10 lines	2.50	4.00	5.50	7.00

Six words usually make a line

Compute white space at the above rates.

Mail your advertisement to

THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

CORE-DRILL your structure before putting cable tools at work. It will save you time and money. St. Clair Exploration Co., Diamond core-drill contractors. Established 1903. Geo. H. St. Clair, Mgr., Minneapolis, Minn.

BUSINESS OPPORTUNITY

GET MONTHLY CASH DIVIDENS by investing in the participating shares of a sound seasoned royalty company over five years old. Over 107 cash paid to date. Books close 25th; checks mailed 30th each month. Write E. F. Hyland, 868 Penobscot Bldg., Detroit, Mich.

WANTED COMPLETE standard rig and casing for interest in 3,500-foot well on closed structure in New Mexico, approved by several well-known geologists. Structure maps and reports for inspection. I have the money to drill the well. Box A-871, The Oil and Gas Journal, Tulsa, Okla.

STOCK SELLING

Corporations desiring capital for promotion, development or expansion are invited to communicate with the undersigned.

Courteous considerations; prompt action; established reputation, complete facilities for campaigns of any size.

WILLIAM R. THURSTON

33 West 42nd St. Telephone
New York City Longacre 4990

DO YOU NEED MONEY for organizing or financing oil, mining or other propositions? Phone M 7794, write, 35 E Tenth, Oklahoma City, Okla.

THE RESULT producing benefits of THE OIL AND GAS JOURNAL Classified Wants Section are helping the men of the industry to get the maximum good out of their equipment.

FINANCIAL ASSISTANCE

Furnished covering the installation of Absorption Gasoline Plants to owners of suitable gas leases.

HAMMOND ENGINEERING CORP.

215 First National Bank Bldg.
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610 Transportation Bldg.
Los Angeles, Calif.

SAINT JAMES SCHOOL. Episcopal. Home school for boys of the grades. Military and honor system. Individual attention. All sports; parental care. Address F. E. Jenkins, Headmaster, Box T, Faribault, Minnesota.

WE OFFER $100 to any one who will prove the oil seepage here is a fake, leakage from filling station, or poured in by hand. Oil 42 gravity, amber color. For information, address C. N. Daniel, Box 46, Beardstown, Tenn.

A PRODUCING OIL COMPANY

Holdings, 600 acres; one flowing well—three more on the sand—one drilling—derrick erected and rigging preparing to drill well No. 6, offsetting producer—makes an initial offering of a limited number of shares for the purpose of increasing present production on our proven acreage, and for further development.

This offering is made by virtue of a permit secured under the Blue Sky Law of the State of Arkansas.

Circular upon request.

ADVANCE OIL CO.
Prescott, Ark.
Incorporated under Arkansas State Law

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SAINT JAMES SCHOOL. Episcopal. Home school for boys of the grades. Military and honor system. Individual attention. All sports; parental care. Address F. E. Jenkins, Headmaster, Box T, Faribault, Minnesota.

GUARANTEED list of over 200 bona fide lease buyers in Tulsa including all principal operators, giving land man's name, address and telephone. $5.00. Imperial Listings, 836 Kennedy Bldg., Tulsa, Okla.

NEW YORK Mail Address $2 monthly, Other services $3 up. Write for circular. 32 Union Square, Room 501.

INCORPORATIONS

INCORPORATING—Blue sky applications handled in all States. Five years attorney for Minnesota Securities Commission. I. D. Royal, 429 Plymouth Bldg., Minneapolis, Minn.

CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE incorporators. Charters, fees small, forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

FOR SALE—MAPS

ABSTRACT MAPS
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Gives lease and royalty owners, addresses, expiration date, oil development, Government bench marks, and complete information on restricted Indian lands. Made in township units. As map gets out of date it may be exchanged for new one showing all changes in ownership and development for one-tenth original cost. Covers all live areas in Oklahoma and Kansas.

Famous throughout the oil fields.

MID-CONTINENT MAP COMPANY
Dept. A., Bank of Commerce Bldg.
Tulsa, Okla.

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Sell to the world-wide billion-dollar petroleum industry through The Oil and Gas Journal Classified Wants Section.

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	1 Time	2 Times	3 Times	1 Mo.
3 lines	$ .75	$1.20	$1.65	$2.10
4 lines	1.00	1.60	2.20	2.80
5 lines	1.25	2.00	2.75	3.50
6 lines	1.50	2.40	3.30	4.20
7 lines	1.75	2.80	3.85	4.90
8 lines	2.00	3.20	4.40	5.60
9 lines	2.25	3.60	4.95	6.30
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Six words usually make a line.
Compute white space at the above rates.

Mail your advertisement to

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

FOR SALE—New geological map of Southeast New Mexico showing Artesia oil field and wildcat developments. Cross-section and log. Price $1 postpaid. E. R. Lovewell, geologist, Artesia, N. M.

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REGISTERED PATENT ATTORNEYS
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Before disclosing your invention to anyone send for blank form—
EVIDENCE OF CONCEPTION
Bulletin "How to Establish Your Rights" and complete information free.
LANCASTER & ALLWINE
Ouray Building Washington, D. C.

NORTH CENTRAL TEXAS

(Continued from Page 32)

Panhandle Refining Co.	240	
Prairie Oil & Gas Co.	3,790	
Sun Co.	95	
The Texas Co.	2,690	
Texhoma Oil & Refining Co.	2,420	
Miscellaneous	22,500	
Total		37,075
Stephens County		
Empire Gas & Fuel Co.	65	
Gulf Production Co.	1,455	
Humble Oil & Refining Co.	775	
Magnolia Petroleum Co.	490	
Mid-Kansas Oil & Gas Co.	1,475	
Prairie Oil & Gas Co.	915	
Sinclair Oil & Gas Co.	85	
Sun Co.	235	
The Texas Co.	1,350	
T. P. Coal & Oil Co.	1,155	
Miscellaneous	6,285	
Total		14,285
Ranger		
Gulf Production Co.	290	
Humble Oil & Refining Co.	55	
Magnolia Petroleum Co.	675	
Mid-Kansas Oil & Gas Co.	215	
Panhandle Refining Co.	295	
Prairie Oil & Gas Co.	725	
Sinclair Oil & Gas Co.	350	
The Texas Co.	190	
T. P. Coal & Oil Co.	875	
Miscellaneous	2,740	
Total		6,320
Moran		
Empire Gas & Fuel Co.	30	
Prairie Oil & Gas Co.	20	
The Texas Co.	520	
Texhoma Oil & Refining Co.	105	
Miscellaneous	2,850	
Total		3,525
Young County		
Gulf Production Co.	495	
Humble Oil & Refining Co.	1,330	
Magnolia Petroleum Co.	612	
Mid-Kansas Oil & Gas Co.	20	
Panhandle Refining Co.	250	
Prairie Oil & Gas Co.	10	
Sinclair Oil & Gas Co.	400	
Sun Co.	70	
The Texas Co.	1,225	
Texhoma Oil & Refining Co.	165	
Miscellaneous	7,100	
Total		11,677
Eastland and Comanche Counties		
Empire Gas & Fuel Co.	10	
Humble Oil & Refining Co.	175	
Magnolia Petroleum Co.	1,025	
Mid-Kansas Oil & Gas Co.	235	
Prairie Oil & Gas Co.	135	
Sinclair Oil & Gas Co.	30	
The Texas Co.	165	
T. P. Coal & Oil Co.	110	
Miscellaneous	1,785	
Total		3,660
Panhandle		
Carson County	2,290	
Hutchinson County	1,205	
Wheeler County	95	
Gray County	15	
Total		3,605
Miscellaneous Pools		
Wilbarger County	8,760	
Petrolia County	398	
Montague County	420	
Jack County	35	
Throckmorton County	100	
Baylor County	145	
Palo Pinto County	625	
Brown County	2,895	
Coleman County	245	
Callahan County	3,195	
Mitchell County	2,160	
Reagan County	30,505	
Scurry County	60	
Total		49,543
Total this week		166,781
Total last week		170,239
Loss		3,458

Stephens County Drilling

Hofmeir and others' No. 1 Keel is drilling at 2,335 feet; Mid-Kansas Oil & Gas Co.'s No. 13 Hill, 3,295 feet; No. 17 Hill, 2,215 feet; No. 6 Hill, 950 feet; Mid Tex Oil Co.'s No. 2 Cunningham, 500 feet; Moore and others' No. 1 Cunningham, 2,006 feet; Rochelle and others' No. 1 Echols, fishing at 3,190 feet; T. P. Coal & Oil Co.'s No. 4 Kirtley, drilling at 2,510 feet; The Texas Co.'s No. 3 Martin, cleaning out at 3,231 feet; Barkley and others' Hames, drilling at 3,540 feet; Carter and others' No. 2 Pierce, fishing at 2,730 feet; No. 1 Vaughon, drilling at 3,300 feet; Carter & Thompson's No. 6 Langford, 2,900 feet; No. 1 Polan, 3,100 feet; Cosby Oil & Gas Co.'s No. 1 Satterfield, fishing at 1,600 feet; Hagaman Refining Co.'s No. 1 Hagaman, drilling at 600 feet; Houston and others' No. 1 Fletcher, 2,075 feet; Hughes and others' No. 1 Williams, underreaming; Kleimfelder and others' No. 3 Geimes, drilling at 915 feet; Kohn and others' No. 1 Power, spudding in; Lardreth Production Co.'s No. 1 Elliott, fishing at 2,235 feet; No. 3 Gratz, drilling at 1,150 feet; Lyman and others' No. 1 Langford, showing up gas and sand at 1,892 feet; McLester Oil Co.'s No. 1 Langford, drilling at 1,620 feet; Magnolia Petroleum Co.'s No. 6 Walker, showing gas and sand at 3,185 feet; Moorman and others' McClesky, drilling at 1,250 feet; Phillips Petroleum Co.'s No. 1 Pace, 630 feet; No. 1 Tarrant, 2,550 feet; Prairie Oil & Gas Co.'s No. 4 Ware, 980 feet; Scott and others' No. 1 Whalen, 1,400 feet; States Oil Corp.'s No. 1 Cooper, 800 feet; T. & P. Coal & Oil Co.'s No. 8 Adams, 3,710 feet; No. 57 Binney, 307 feet; No. 2 Hand, 3,542 feet; No. 9 Veale, 1,840 feet; The Texas Co.'s No. 37-A Parks, fishing at 3,222 feet; No. 3 Vick, drilling at 1,620 feet; Tidal Oil Co.'s No. 1 Mayhill, 3,650 feet.

Eastland County

Brewer and others' No. 1 Sims, drilling at 3,015 feet; Gallagher and others' No. 1 Woods, 650 feet; Holmack Oil Co.'s No. 1 Gilbert, 1,310 feet; No. 6 Thompson, 2,650 feet; Kirk and others' No. 1 Blackman, 2,750 feet; Lightfoot and others' No. 2 Allen, fishing at 2,950 feet; Magnolia Petroleum Co.'s No. 6 Allman, spudding in; No. 1 Bishop, spudding in; Prairie Oil & Gas Co.'s No. 4 Harrell, drilling at 3,410 feet; Robert Oil Corp.'s No. 5 McMinn, 1,340 feet; No. 4 Petit, 450 feet; Sinclair Oil & Gas Co.'s No. 8 Davis, cementing casing at 1,825 feet; Corzelious Brothers' No. 1 Dulin, spudding in; Hoffer Oil Corp.'s No. 1 Hitson, drilling at 1,240 feet; Holliday's No. 1 Raney, 1,260 feet; Landreth Production Co.'s No. 1 Wilkerson, 3,902 feet; Reeves and Leveridge, drilling at 710 feet; Root and others' No. 1 Kurklin, 390 feet; No. 1 Pelfrey, 300 feet; States Oil Corp's No. 5 Hise, 1,100 feet; The Texas Co.'s No. 1 Chastian, 900 feet; Texas Development Co.'s No. 2 Rushing, 1,240 feet.

Brown County

Adams and others' No. 1 Newton, reaming at 1,500 feet; Anderson's No. 1 Williams, spudding in; Cal Brothers Oil Syndicate's No. 2 Prather, drilling at 600 feet; Canyon Oil & Gas Co.'s No. 4 Ellsbury, cleaning out at 1,416 feet; Gillman and others' No. 15 Newton, 600 feet; Gilman & McMurray's No. 2 Chambers, fishing at 100 feet; No. 1 Henry, drilling at 550 feet; No. 5 Moore, 1,105 feet; No. 6 Teston, on sand at 1,262 feet; No. 7 Teston, spudding in; Halmock Oil Co.'s No. 1 Hubbard, drilling at 314 feet; Howell and others' No. 1 Helms, 1,120 feet; Hughes Development Co.'s No. 2 Arledge, spudding in; No. 1 Moore, drilling at 711 feet; Ingleright and others' No. 1 Eubanks, 1,275 feet; Mook and others' No. 1 Wright, 700 feet; Mook Texas Oil Co.'s No. 3 Newton, spudding in; McLester Oil Co.'s No. 1 Clark, fishing at 605 feet; Moore and others' No. 4 Baxter, drilling at 860 feet; No. 1 Kilgore, spudding in; Moore & Wilson's No. 6 Gafford, spudding in; No. 7 Gafford, spudding in; Olympia Oil & Refining Co.'s No. 3 Gillman, drilling at 1,200 feet; Slick and others' No. 1 Windham, 240 feet.

Reagan County

Big Lake Oil Co.'s No. 20 University, drilling at 2,616 feet; the same company's No. 30 University, drilling at 815 feet; the same company's No. 31 University, fishing at 2,480 feet; No. 32 University, drilling at 2,630 feet; No. 33 University, 2,840 feet; No. 34 University, 2,725 feet; No. 36 University, fishing at 2,535 feet; No. 37 University, skidding rig; No. 39 University, fishing at 2,550 feet; No. 40 University, drilling at 2,660 feet; No. 41 University, 1,915 feet; No. 42 University, cementing casing at 2,819 feet; No. 43 University, drilling at 500 feet; No. 45 University, 505 feet; No. 46 University, 1,055 feet; Cogdell's No. 1 University, 2,936 feet; Simon and others' 'No. 1 University, spudding in; Texan Oil & Land Co.'s No. 12 Group 1 University, drilling at 2,840 feet; No. 22 Group 1 University, 875 feet; No. 24 Group 1, spudding in; No. 27 Group 1 University, drilling at 450 feet; No. 29 Group 1 University, 315 feet; No. 4 Group 2 University, cleaning out at 2,590 feet.

Young County

British American Oil Co.'s No. 1 Leberman, drilling at 100 feet; Christie Brothers' No. 7 McLaren, 540 feet; Clark and others' No. 1 Bishop, on sand at 993 feet; Humble Oil & Refining Co.'s No. 3 Kilcrease, on sand at 1,000 feet; No. 8 Mercer, drilling at 677 feet; No. 9 Mercer, 624 feet; No. 1 Robbins, 1,550 feet; Junker and others' No. 1 Doyle, 310 feet; Lesh and others' No. 10 Kemp, 557 feet; McQuain and others' No. 1 Donnell, 2,060 feet; Mission Oil Co.'s No. 1 McKeichan, 2,865 feet; Murchison and others' No. 15-D Campbell, 950 feet; No. 16-A Campbell, underreaming; No. 17-D Campbell, underreaming; No. 2-E Campbell, underreaming; Navarro Oil Co.'s No. 1 Parrish, underreaming; Nelson and others' No. 1 Kemp, drilling at 200 feet; Petroleum Production Co.'s No. 2 Kilcrease, on sand at 1,023 feet; Plains Production Co.'s' No. 6 Kilcrease, drilling at 940 feet; Phillips Petroleum Co.'s No. 1 Thedford, spraying oil at 3,652 feet; Roeser and others' No. 1 Cathey, underreaming; No. 1 Kunkel, drilling at 470 feet; Seaboard Oil & Gas Co.'s No. 4 Hughes, 2,410 feet; Snowden & McSweeney's No. 1 Henderson, 1,210 feet; Stovall and others' No. 4 fee, 990 feet; Sun Oil Co.'s No. 1 Deitrich, 1,192 feet; The Texas Co.'s No. 1 Kunkel, 750 feet; No. 1 Wilson, 690 feet; Weaver and others' No. 3 Dunagan, 840 feet; Wolf and others' No. 2 Haygood, 830 feet.

Throckmorton County

Associated Petroleum Co.'s No. 1 Cummings, drilling at 150 feet; No. 3 Reynolds, 230 feet; No. 1 Stacey, 2,862 feet; Black Cat Oil Co.'s No. 1 Gaither, 1,408 feet; Hoffer Oil Corp.'s No. 1 Parrett, 490 feet; Humble Oil & Refining Co.'s No. 1 Harrison, 2,130 feet; Larkin and others' No. 1 Richards, 2,250 feet; Magnolia Petroleum Co.'s No. 1 Davis, underreaming; Red Bank Oil Co.'s No. 1 Graham, drilling at 2,560 feet; Reiter-Foster Oil Co.'s No. 2 Stubblefield, 2,305 feet; Texhoma Oil & Refining Co.'s No. 1 Graham, 1,200 feet; No. 3 Reynolds, 1,506 feet.

Shackelford County

Conley and others' No. 1 Parrish, underreaming; French and others' No. 1 Dillar, drilling at 250 feet; Hope Petroleum Co.'s No. 1 Poindexter, 820 feet; Humble Oil & Refining Co.'s No. 1 McLemore, underreaming; Lake and others' No. 1 Black Brothers, 500 feet; Loggie and others' No. 3 Black Brothers, 205 feet; McKamra and others' No. 1 Clausell, underreaming; Phillips Petroleum Co.'s No. 2 Compton, fishing at 1,245 feet; No. 1 Fry, drilling at 1,520 feet; No. 7 Parrish, 360 feet; Richardson Brothers' No. 1 Colbert, 710 feet; Riley and others' No. 1 Elliott, 300 feet; Rogers and others' No. 1 Sexton, 470 feet; Tannehill and others' Meyer, 390 feet; Tracy and others' No. 1 Hill, underreaming; United Mutual Oil Co.'s No. 1 Reynolds, spudding in.

Palo Pinto County

Strawn Coal Co.'s No. 4 Burton, drilling at 3,800 feet; Hart Oil Corp.'s No. 10 Hart, 2,222 feet; Moore's No. 1 Slemmons, 1,650 feet; Pendar Production Co.'s No. 3 Slemmons, 2,673 feet; T. P. Coal & Oil Co.'s No. 148 Stuart, 200 feet; Upham Gas Co.'s No. 4 Belding, 1,902 feet; Jack Dalton Oil Co.'s No. 6 Dalton, fishing at 4,010 feet; Upham Gas Co.'s No. 2 Chesnut, drilling at 2,120 feet.

Parker County

Monroe and others' No. 1 Davis, spudding in; Swensondale Oil Co.'s No. 1 Evans, cleaning out at 2,700 feet.

Callahan County

Bowden and others' No. 1 Coats, drilling at 380 feet; Canyon Oil & Gas Co.'s No. 2 Barr, 575 feet; Harris and others' No. 1 Block 25, 500 feet; Lowe and others' No. 1 Block 82, 1,050 feet; Mogul Oil Corp.'s No. 1 McDermott, spudding in; Moore and others' No. 1 Block 7, drilling at 720 feet; Shults and others' No. 1 Strahan, 380 feet; Slick and others' No. 1 Haley, spudding in; Wakefield and others' No. 1 Block 31, drilling at 700 feet; Warren and others' No. 1 Block 6, 300 feet.

Mitchell County

Eastland Oil Co.'s No. 4 Keynard, drilling at 1,015 feet; Henshaw and others' No. 1 Scott, 600 feet; Magnolia Petroleum Co.'s No. 2 Foster, fishing at 2,795 feet; No. 1 Womack, drilling at 2,350 feet; Snyder and others' No. 1 Keith, 1,850 feet; California Co.'s No. 1 Missouri State Life Insurance Co., 2,755 feet; No. 1 Miller, 2,980 feet; No. 1 Womack, 2,780 feet; No. 14 Morrison Lease 2, 405 feet.

NEW MEXICO FIELDS

(Continued from Page 135)

feet; Dresser No. 1, set the 12½-inch and drilling below 800 feet; Campbell No. 1, installing heavier rig, casing set at 2,520 feet; White Oil Corp. No. 1, rigging up.

San Miguel County

Marland Oil Co.'s No. 1 Bell ranch, casing set at 2,140 feet, drilling at 2,210 feet; New Mexico No. 1, drilling below 1,600 feet; No. 2, same company, drilling at 630 feet; Meadows Co.'s No. 1, drilling, 320 feet; Santa Fe No. 1 has resumed drilling.

Mora County

Arkansas Fuel Co.'s No. 1, in Section 11-19-21, drilling below 1,600 feet.

Colfax County

Union Oil Co.'s No. 1 Vermejo Park, drilling in the Dakota below 3,350 feet.

Rio Arriba County

Albuquerque No. 1, in Township 31 N, Range 1 E, testing gas sand; Munoz-Continental No. 1, Section 25-24-1, drilling.

McKinley County

California Syndicate's No. 1, drilling, 320 feet; Pierce No. 1, drilling below 450 feet; Union-United No. 1, resumed drilling, 500 feet; Melsted No. 1, drilling below 430 feet.

San Juan County

Rainbow No. 1 Ute pasture, shut down at 1,620 feet; No. 2, setting casing at 400 feet; Dolores Oil & Gas Co.'s No. 1 Kellenberger, on production; Coal Creek No. 3, being put on pump; Four States No. 1, shut down; Huntington Park No. 1, shutting off water at 728 feet; T. J. Beardsley No. 1, spudded in; Lexi Oil Co. No. 1, resumed drilling; New Mexico Eagle No. 1, shutting off water; Cross-Marlock, No. 1 Sutton, drilling; Continental No. 1 Table Mesa Dome, drilling; Munoz-Continental No. 1, drilling; Bloomfield No. 8, drilling.

GEOLOGISTS SUMMARIZE NEW YORK OIL FIELDS

An article in the Bulletin of American Petroleum Geologists thus summarizes the oil fields of New York which comprise some 50,000 acres. The most westerly pool of importance is in Cattaraugus County, and it is the northerly continuation of the Bradford pool of Pennsylvania. To the east in Allegany County is the Richburg pool, the largest and most productive in the state. Several smaller pools occur, among which is the Marsh pool in Steuben County, the most easterly producing pool in the United States. The oil region of New York is a dissected plateau, as a result of which the main producing sand of Devonian age is found at depths varying from about 900 feet in the valleys to over 2000 feet for the uplands. In spite of more than 15,000 wells that have been drilled into the oil sands, their structure is but imperfectly known. A general southwest dip is generally recognized, and a few local anticlines and synclines have been determined, but undoubtedly many more are present. Another type of structure is the flat-top, basin-shaped sand lense. The absence of salt water from most parts of the fields and the presence of oil in synclines are noteworthy features. With no important areal expansion of the pools in 25 years the present production is greater than 15 years ago. Increase in production is due largely to "flooding" or restoring pressure from water wells.

OIL RATE SCHEDULE SUSPENDED

WASHINGTON, D. C., Aug. 15.—The Interstate Commerce Commission has suspended until December 8 certain schedules which propose to increase the estimated weight on crude, fuel and gas oils from 6.6 to 7.4 pounds a gallon on shipments handled within the Chicago switching district.

VISITING MID-CONTINENT

C. W. Metzger, special representative of the Haynes Stellite Co., is visiting the Mid-Continent fields and will open offices in Tulsa and in Houston, Tex.

OIL LEASING IN THE ROCKY MOUNTAINS

(Continued from Page 22)

if there are no other claimants, the operator usually gets his permit in short order. The matter of priority in filing counts much for the time of filing is carefully recorded at the Land Office and it is an iron rule that first come first served shall apply in all cases, if the filing is done in the right way and the conditions fulfilled.

The filing fees amount to about $35 in most cases and under the present system, one person or company can take up four sections of land in one block, comprising 2,560 acres. This does not have to be taken as four solid sections but can be aligned so as to cover any irregular area that includes a structure.

If no adverse claim is made against the land, the operator receives a permit to search for petroleum on this land he designates in his application. In case of an adverse claim, the Land Office examines into the claims caerfully and awards the land to the one having the better claim.

Operator's Obligations

Upon receiving the permit, the operator must survey the boundaries of the tract within 90 days and mark all corners with substantial corner posts not less than four inches square. The custom at present seems to be to take two-by-fours, 6 feet long and nail two together to make the post four inches square. These are usually set in the ground only a foot or two for the range cattle love to rub against anything and no matter how well a post is set, the cattle soon knock it over, so the oil men have quit trying to make their posts stand up in most cases and have complied with the letter of the law anyway in placing the post as specified.

Before making application for a permit, the applicant must also post a notice on the land that he intends to make such application. This clause has been abused very much in the past for the oil men as a general rule are honest and take the time to go out to the tract wanted and post a notice of application for permit, while it is generally understood that many unprincipled persons have simply gone direct to the Land Office and blithly made affidavit that they have posted a notice of application. It is a hard matter to disprove and gives the unprincipled cliamant a priority advantage over the more honest man. The posting of the notice serves no valid reason and is a throwoff from the old gold mining laws where it served a good purpose.

After obtaining a permit, the operator has 90 days to mark his tract and survey it. Upon completion of this work, he must post a notice that a permit has been granted, this notice to be placed on the land on a suitable post or side of a building. He then has six months to move on a rig and if conditions are such that he finds it hard to comply with this rule, the Land Office and the Department of the Interior has been very lenient in the past and usually extends the time limit upon application of the operator.

Unless he has had the time limit extended, the operator must drill a well 500 feet deep and not less than a six-inch hole, within one year. This is a clause that is not looked on with favor, especially by the small operators. An instance illustrating this is now coming up in the Teapot Dome. On the east side of Teapot is an area that will produce shallow oil, coming from the Shannon sand at about 900 feet. To produce here, the oil man must economize carefully and his best equipment for drilling would be the medium sized drilling machines and using the regular 5⅝-inch light weight casing such as is used in other shallow oil fields. This means a hole about 5 inches in diameter in the sand and does not come up to the regulations of the permit. Therefore the shallow sand operator has to purchase the heavy, costly deep well tools and use heavy casing and pipe intended for holes thousands of feet deep, which naturally adds considerably to his cost. The 1-inch larger diameter gained with the use of the 6-inch pipe does not affect the productive capacity in the least, but it deters many from drilling there.

Plenty of Time Allowed

If the operator does nothing within the two-year life of the permit, he may still have it extended another two years by making application for same to the Land Office and Department of the Interior and by giving a valid reason for not making the development.

After bringing in a well on production, the operator then obtains a lease from the Government. This lease is subdivided into two classes. In the first place, the oil man is given a lease on a fourth of the land under claim, he to designate what land he wants. This first lease carries a royalty of only 5 percent. If the tract should be a small one, the operator can take 160 acres even if this is more than one-fourth of the area. The operator also has the preference right on the rest of the land and may take it on a lease from the Government at a royalty of 12½ per cent or the usual one-eighth. This lease, however, has a provision that permits the Government to place a sliding scale of royalty on wells that produce more than 200 bbls.

In making application for a permit, the oil man does not require any special form. The first thing should be the name and address of the applicant and whether he is a native or foreign born. It should then be stated whether the applicant has any other permits and the location of such permits. This should be followed by a description of the land wanted in the application and the statement that it does not lie within a proven field. Three references are then given as to applicant's reputation and business ability and lastly, the statement that a notice of application has been posted on the land. It is not required that a notice shall be posted, to file an application, but the application then does not receive priority over the application of one who has posted a notice on the ground.

An oil operator can file application for permit on homestead lands where the homesteader has not secured the title to the minerals and the operator then must reimburse the homesteader for damage to crops and the like. Where the homesteader has secured title to the minerals, the proceedure is the same as for private landholdings.

Abusing Privileges

Some abuse has crept in in the filing of permit applications, when the permit is mailed to the Land Office of the district and the applicant fails to enclose postage, or the filng fee, or some other little matter in the making of his application. This does not invalidate the application for the time being and the Land Office writes back and advises the applicant of the omission. The applicant then draws out the correspondence as long as he wishes yet his application prevents any other party from obtaining priority and he can complete the matter at any time and allow the application to go on through the regular channels. In this way the applicant is able to hold the land for a much longer time than were he to have the application go through at once. The Government system and red tape is largely responsible for this feature. The Land Office clerks and officials are very courteous and while the above detailed method is an imposition on them, they endeavor to clear up the matter with the utmost courtesy and write long letters explaining a simple matter that a child could understand, even when they feel that the applicant is imposing on their good nature in order to gain time.

When Oil Is Found

After the applicant has received his permit and drilled into production, the operation and development is then under another division of the Government, the Bureau of Mines. Here the operator meets with a wholly different class of men from what he had dealings with in the Land Office. The Bureau of Mines men are usually experienced oil men themselves, taken from the fields and wells direct to the Government service, while the Land Office men are woefully ignorant on oil matters. It is often noticed that an oil operator, after dealing with the Land Office, tries to pull off something on the Bureau of Mines men and those who know watch the affair with interest, for every time the operator comes out blowing on his fingers.

Leasing State Lands

The second class of land, that owned by the States, is a straight matter of leasing. While it is possible to obtain State land through purchase, the proceedure is hedged about with so much red tape that the oil operator never bothers with it.

When the States in the West were admitted to statehood, the Federal Government allotted a large amount of the land in each commonwealth to the State. In Wyoming for instance, the Government gave the State every Section 36 and 16 to be used for school purposes. In a few cases where these sections lay within a National park or National forest reserve, or Indian reservation, the Government permitted the State to select other sections. Thus in every township the State has two section and sometimes other pieces of land.

When the oil operator in the Rocky Mountain States finds he needs some State land, he goes direct to the capital and makes application to the Secretary of State for that tract. The proceedure is much the same as the application for a permit from the Federal Government except that a regular form is employed. The application is gone over in quick time and a bonus or yearly rental, depending on the location of the tract is fixed by the State. When this is paid by the applicant, he is given a lease. In case the section or tract lies in an oil field, it is sometimes put up at auction as was the case with Section 36-40-79 in Salt Creek last year. This is a very valuable piece of land and the Midwest bought it in by bidding a 65 per cent royalty. An offer of $5,000,000 was turned down by the State. Where the section lies in a wildcat district with no wells around it, the price of a section in Wyoming is about $200 per year.

The Leasing of Indian Lands

In leasing Indian lands on the reservations, the oil operator deals directly with the Indian agent and unless oil has been found near the tract wanted, the leases can be had for a nominal figure much the same as a lease is obtained from private parties. Once a year, the Indian agent holds a sale of leases of lands that may be valuable for oil or gas, but in Wyoming these sales have not created much interest.

When the railroads were first built in the West, the Government gave the railroads much land. These tracts are still in hands of the railroads in the main and the Union Pacific especially owns vast tracts of this land. The railroads are considered the hardest to obtain leases from of any class and the operators seem to prefer to do their development work away from any railroad-owned lands so as to be clear of this trouble. In the Fort Collins Field in Colorado, the operators have had to secure railroad land. The railroad lands are often checkerboarded so that the oil man is hedged round with restrictive leases against private or Government lands that are easily developed.

Trouble in New Mexico

In the new developments in New Mexico, the oil men are having some trouble with the titles. In some cases the titles run back to the old days of the Spanish occupation and sometimes these old titles are tied up with conflicting claims so that the oil operator is in a quandary to know which side owns the land he wishes to lease.

Where large ranches are owned by corporations or private individuals, the lessors also report much difficulty in securing the right to operate. The lessors claim that the large landholders have a tendency to drive a hard bargain that often compels the operator to abandon his plans for development.

CRUDE CUTS IN NORTH AND CENTRAL TEXAS

(Continued from Page 28)

homa was that of the Champlin Refining Co., of Enid, which posted the following prices on Garber crude alone, effective August 15: 38 to 38.9 gravity, $2.20; 39.9, $2.28; 40 to 49.9, $2.36; 41 to 41.9, $2.44; 42 to 42.9, $2.52; 42 to 43.9, $2.60, and 44 and above, $2.68.

On Monday, August 17, the Paragon Refining Co. cut Barren, Cumberland and Monroe County crudes 25 cents per barrel, bringing the price down to $2.35 per barrel in each of those counties.

On Monday, August 17, the Joseph Seep Agency, principal purchaser of oils of the Pennsylvania grades, announced a 25-cent reduction in all grades of Pennsylvania crude, making Allegany, N. Y., crude $3.45; Bradford crude, $3.45, and all other Pennsylvania grades $3.25. On the same day Cabell, W. Va., was cut from $2.35 to $2.20, Somerset (Kentucky) medium to from $2.45 to $2.30, Somerset light from $2.60 to $2.45 and Ragland (Kentucky) from $1.30 to $1.20. On Tuesday, August 18, Pennsylvania grade crude in Buckeye Pipe Line was cut to $3. The Buckeye Pipe Line Co.. runs about 10,000 bbls. a day of this grade of crude, which made the cut of importance.

NEW M'CLAVE PROCESS TO FREE OIL FROM SAND

The McClave invention, says the London Petroleum World, is a process for separating hydrocarbons from sand by the use of a cheap and efficient chemical solvent that will act with great rapidity in freeing the oil from the sand grains.

The process consists in digesting the crude sand in a solution of a jelly-forming clay known as Bentonite. The clay is prepared by dissolving in water until a 2 to 3 per cent solution is obtained. In some cases where the Bentonite is low in sodium salts, a small amount of an alkaline salt or sodium silicate is added to the solution to make it more active. This solution is mixed with the crude sand in a digesting tank with steam at a temperature of from 15 degrees to 200 degrees fahrenheit, where the sand is broken down into a thin pulp about one part sand to one part water, and during the digesting period the oil is forced from the sand grains but distributed through the entire mass. The sand pulp is then passed to a screen to remove the coarse gravel, and water is added to thin the pulp to about one part sand to five parts water. The five to one mixture is then passed through the oil flotation seperator where the material is agitated in the presence of air and by means of a spitz or quiet zone the freed oil rises to the surface of the water and is removed from the separator. The clean sand is passed through the machine by means of the agitators and removed by a screw conveyor or a sand drag.

INCREASE CAPITAL

OKLAHOMA CITY, Okla., Aug. 16.—During the first 10 days of August foreign oil, gas and refining corporations doing business in Oklahoma reported to the Secretary of State increases of capital investment in the State totalling nearly two million dollars. The largest items of increase were reported by Windsor Oil & Gas Co. of Delaware, $262,333 to $700,000, the Gilliland Oil Co. of Delaware, $1,816,311 to $2,350,786.

WILLIAM RICHARDS DIES

CHATHAM, Ont., Aug. 15.—William Richards, aged 81, died at Wallaceburg, Ont., recently. At the time of the oil boom he was for some years a prominent oil producer in the Oil Springs Field.

COLORFUL CAREER OF WAITE PHILLIPS

(Continued from Page 26)

lipe-Highway Oil Co. combination until April 1, 1921, all the products were marketed to independent jobbers in tank car lots. On that date a concern operating one bulk station and two service stations in Tulsa was acquired; and that was the beginning of the marketing end of the Waite Phillips Co., which now operates in four states, with 67 bulk stations and 86 filling stations.

In the summer of 1921 the Waite Phillips interests entered Okmulgee with two filling stations, and in the spring of 1922, bulk and filling station service was established by them in southwestern Missouri and in eastern Oklahoma near Tulsa. In the fall of 1923 a line of filling stations was acquired in northern Arkansas. More filling stations were acquired in the spring of 1924 through the purchase of the Oklahoma Producing & Refining Co. filling stations, which had become the property of the Pure Oil Co. Kansas City and the surrounding territory was entered by the service stations of the Waite Phillips Co. in the fall of 1924.

During the period of expansion of the marketing end of the Waite Phillips Co., the fleet of tank cars operated by it has grown from 98 to 678 cars.

In January, 1925, the Waite Phillips Co. purchased the Sterling refinery at Wichita, Kans., with a daily capacity of 5,000 bbls. This refinery was purchased principally to take care of the mounting production of the Rainbow Bend Pool in Cowley County, Kansas. The plant and a pipe line system have been running at capacity since the purchase.

Moved to Tulsa

Immediately after the bringing in of the Youngstown production, Waite Phillips moved his offices from Okmulgee to Tulsa. It is rumored that he attempted to borrow a substantial amount from one of the Okmulgee banks and that failing in that he made a trip to Tulsa where the loan was negotiated. Whatever the cause, he made the move to Tulsa shortly after the Youngstown Field was brought in.

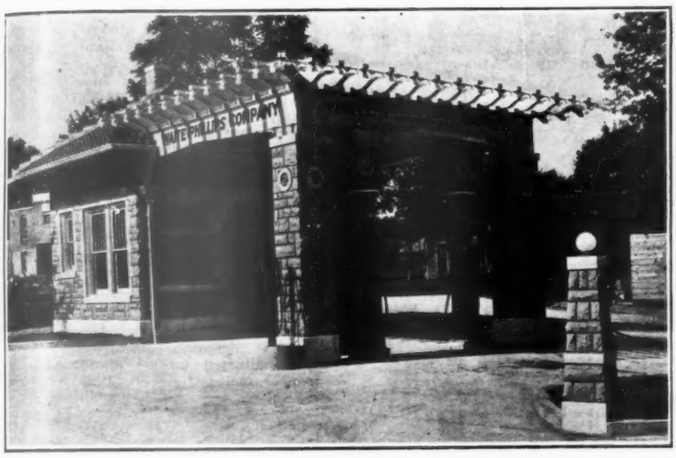
With the gradually extending scope of his operations and the ever increasing daily production, he expanded his program to cover other fields in the State and finally went into Kansas. In the various fields in Oklahoma he has operated successfully with the exception of the Osage from which he has religiously kept away buying into only one Osage sale and disposing of his purchases at that sale to the Mid-Kansas Oil Co. In the fields of Kansas he has been unusually successful and the great Rainbow Bend Pool was opened by his company. It has been a wonderful field and today it is 19 months old and still has a daily production of 11,000 bbls.

And so another prominent figure passes out to the ever changing picture. The executives with which Waite Phillips has surrounded himself are for the most part young men, and while many of them will receive substantial fortunes through the sale of their stock they are all too young and too virile to retire.

In the opinion of one who has watched him for seven years, Waite Phillips is a perfect example of how the man with money should act and there is no one who has come into such money as he who has changed less. He is the same Waite Phillips today as he was in 1919. Tulsa and the oil industry will surely miss him, but let us hope he will not long remain away.

TEAPOT GASOLINE PLANT

CASPER, Wyo., Aug. 17.—Operation of the New York Oil Co.'s gasoline plant, which is nearing completion on the Teapot Dome, will be started in the near future. The plant, which is near the tank farm of the Sinclair Pipeline Co., has six Cooper compressors of 160 horsepower each and has a capacity rated at 5,000,000 cubic feet daily.



A typical Waite Phillips filling station in the Tulsa territory. It is built mainly of cut stone.

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended August 8 totaled 435,000 bbls., a daily average of 62,143 bbls., against 390,000 bbls., a daily average of 55,714 bbls. for the week ended August 1 and a daily average of 75,143 bbls. for the four weeks ended August 8.

	Week Ended Aug. 8
At Atlantic Coast Ports	
New York	197,000
Philadelphia	78,000
Total	275,000
Daily average	39,286
At Gulf Coast Ports	
New Orleans and Baton Rouge	160,000
Daily average	22,857
Total Atlantic and Gulf Coast Ports	435,000
Daily average	62,143
Daily average four weeks ended	75,143

According to figures collected by the American Petroleum Institute, imports of crude and refined oils at the principal ports for the week ended August 8, totaled 1,240,000 bbls., a daily average of 171,143 bbls., as compared with 949,000 bbls., a daily average of 135,571 bbls. for the week ended August 1, and a daily average of 183,964 bbls. for the four weeks ended August 8.

	Week Ended Aug. 8
At Atlantic Coast Ports	
Baltimore	73,000
Boston	65,000
New York	429,000
Philadelphia	76,000
Others	312,000
Total	955,000
Daily average	136,429
At Gulf Coast Ports	
Galveston district	66,000
New Orleans and Baton Rouge	171,000
Tampa	48,000
Total	285,000
Daily average	40,714
At All United States Ports	
Total	1,240,000
Daily average	177,143
Daily average four weeks ended	183,964

OIL MEN'S PAGEANT FEATURED OLD HOME WEEK IN BRADFORD

BRADFORD, Pa., Aug. 15.—The Old Home Week celebration staged this week by this early day oil metropolis in commemoration of the 100th anniversary of the settlement of the Tuna Valley and the semi-centennial of the Bradford oil field brought back home thousands of former residents from every State in the United States; from Canada and from Europe. The largest contributors were oil region cities and towns in every State where oil is produced. It was a joyous gathering of old friends and they made the most of it through the week.

From the oil industrial point of view the big day of the week was Wednesday, Oil Workers' Day. In the afternoon Mid-Continent visiting oil men staged a parade which was headed by the Tulsa delegation attired in cowboy costumes. Heading the parade was "Col. Tulsa," impersonated by Nathan Bushnell, a veteran of the Pennsylvania, Ohio, Illinois and Mid-Continent fields, who looked like Buffalo Bill brought back to life, and Barney Horrigan of Tulsa, impersonating Chief Bacon Rind of the Osage tribe, in a beautiful white doe skin Indian dress elaborately beaded and otherwise ornamented. Oil men from Oklahoma, Kansas, Arkansas, Louisiana and Texas and a number of young women who had been born in Bradford and who now reside in Mid-Continent cities were in the parade. Most of the girls were on horseback and some in cowgirl costumes, carrying out the plains idea along with their fathers and brothers.

Sam Smith Was There

In the evening a monster oil men's parade was held which included nearly a thousand marching men engaged in the oil business in every field together with many floats typifying the industry.

In this parade was one float on which rode Samuel B. Smith, 82 years old, of Titusville, Pa., who worked on the Drake well, the first well drilled for oil in the United States. With him on the float were the original Drake tools, now the property of the heirs of Lewis Emery, Jr.

The famous "corkscrew" stem, which was recovered bent and twisted by fishing, after it had dropped 2,000 feet into a well, occupied another float. The original jars and bit used in drilling the first successful well in the Tuna Valley, together with an ancient and monster field boiler drawn by four teams of horses, were other relics displayed. The way that oil was first hauled to market was shown when a wagon load of barrels passed by.

An old-time nitro-glycerine wagon, used in transporting the shot used in shooting the first wells in the section, was in line, carrying its DANGER sign painted on the side. The modern shooting wagons and trucks formed a real contrast.

The displays on the many floats that made up the parade represented a miniature petroleum exposition. They represented the producing, refining and transportation ends of the oil industries and showed the old and the modern way of producing oil and getting it to market. Historical floats made up a part of the greatest oil parade ever staged anywhere.

The committee of oil men in charge of the parade was composed of Charles B McVey, chairman, a son of William McVey, who, up to his death a few years ago, had been prominent in the oil business since 1860; W. M. Howard, Donald Mackie, William T. Piper, William Polley, John Polley and Peter Rapp. In the line of march were producers, refiners, pipe line officials, drillers, tool dressers, roustabouts, pumpers, refinery superintendents, still men, oil treaters, chemists, pen pushers, as the clerical men style themselves, and riding in automobiles were old-timers in the oil business, who had in their younger days climbed the steep hills of Western Pennsylvania and the much steeper ones of West Virginia to go "on tower," but who find the going better nowadays on the cushioned seat of a Packard or a Cadillac.

The prize winners in the parade, as judged by the committee of judges, Col. A. D. Burns, William T. Lane and Asher R. Johnson, were announced directly after the line had passed the Public Square, as follows:

Best producing oil well—built by Roy Bryner for Minard Run Oil Co.

Best refinery exhibit—Emery Manufacturing Co.

Best exhibit of oil well supplies and men—Bovaird & Seyfang.

Handsomest float—Ellison and Ellison.

Special mentions were awarded as follows:

Power—Combination Engine & Compressor Co.

Refinery Products—Kendall Refining Co. All-Penn, Bradford Oil Refining Co.

Drilling well—Oil Well Supply Co.

Tank and machine shop—Bradford Supply Co.

Rig builders supplies—Tuna Manufacturing Co.

Torpedo Co.—Pringle Power Co.

Tank car—Sloan & Zook Co.

GASOLINE SUPPLY IS MORE THAN DEMAND

(Continued from Page 21)

is the major refining organization of the East Coast and the Gulf Coast areas which, as previously explained, added approximately 250,000,000 gallons of gasoline to storage the first half of the year.

Situation Reversed

If this company had taken the gasoline it purchased from Mid-Continent refiners from its own storage or purchased it from other coastal refiners, it is apparent that the relative stock situation between the coastal and interior refiners might easily have been reversed. Mid-Continent refiners were also aided by purchases from other large refining organizations and independent export marketing companies.

Reports from several areas now indicate that the coastal refiners, due to the accumulated stocks, are furnishing the bulk of the new export business and have also widended their domestic marketing territory. This once more demonstrates the price relationship between refining areas and the national aspect of gasoline marketing.

It is equally as obvious that if coastal refiners are now getting business which certain interior groups had the first half of the year the latter must reduce their operations in line with the new demand if further price reductions are to be averted. This had not been done in June, according to the Bureau of Mines report, the interior refiners continuing to show a rapid climb in gasoline output. The fact that the market is still slumping would indicate that the same situation obtains up to the present time.

Stocks

In considering stocks this year and last it should be borne in mind that stocks at this time last year were far too great and the fact that they are less in some areas at present does not necessarily have any significance. As one market observer recently said: "It is useless to compare stocks this year with those in 1923 and 1924 when we all know that during the greater part of both years they were too great to permit us to maintain profitable prices. The change made in stock figures by the Bureau of Mines has also largely destroyed their value for comparative purposes.

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Petroleum Securities Generally Lower

Weakness in Oil Issues Was in Marked Contrast to the Strength in General Stock Market Early in the Week

By N. O. Fanning
Room 543, No. 30 Church St., New York

NEW YORK, Aug. 17.—Oil securities were generally lower and the weakness of the issues was in contrast to the strength in the general stock market early in the week.

It is a commentary on oil securities that when there is a definite move one way or the other there are endless explanations offered, with few agreeing on any one cause, and scarcely anyone appearing to know with any degree of certainty the reason for that move. This uncretainty exists whether oil issues are going up or down.

Oil securities often move up coincident with advances in crude or refined oil prices, or down at the same time reductions are being made. But often during a period of price cutting oil issues are moving up, and when prices are going up, securities are declining.

All of this has served to cause more uncertainty with regard to oil security movements than to any other single group of securities of any importance. It has caused the public within the last few years to look askance at the mere mention of "the oils".

Despite this, at times when an upturn in oil issues is "tipped" around the financial district, speculatively inclined traders, including both professionals and amateurs, are prone to jump in immediately. And when these same oil issues start to slump off, they jump out with equal alacrity. In other words, there is no group of securities, according to experienced traders, which respond to minor influences as the oils.

The result is that there are comparatively few who buy oil issues to hold any length of time, or who do hold them regardless of their original intention to do so. This makes for considerable activity due to constant selling, buying, reselling and buying back. It also causes more fluctuations.

Another factor that must be mentioned is the effect of actual oil security price movements on sentiment. The whole oil industry is so much affected by psychology that a big upward movement in securities almost without fail causes overoptimism, while downward movements cause overpessimism, not on the part of stock traders but on oil operators themselves—especially the producers and small refiners.

The stock market is watched closely in the oil fields. When oil issues go down everyone searches for unfavorable developments, while an advance always forces optimistic conclusions, whether based on realities or otherwise.

Present Situation

Practically all this year, up to two weeks ago, the public has looked with favor on oil securities, and presumably a member of those speculatively inclined, as well as investors, bought them. The last two weeks has witnessed a downward movement in oil issues. It is very likely this downward move will cause many holders to sell.

True, oil prices are going down, yet as securities often reflect conditions of the near future, and not of the present, a downward movement in securities is not necessarily justified if the future is brighter than the present.

It is believed that if the decline in oil issues goes much further it will induce considerable liquidation, and that this in itself will cause oil operators to turn pessimistic and discourage both field and refiining operations. If this is so, continued increased consumption of oil should bring a certainty of prosperity in the coming year.

Gulf Oil

It is understood that the Gulf Oil Corp. earned approximately $30,000,000 net in the first six months of 1925, equivalent to approximately $7 a share on the stock, at the rate of $15 per annum. These earnings constitute a record in the history of the company.

California Petroleum

California Petroleum Corp., and subsidiaries report for six months ended June 30, 1925, net income of $3,187,235 after interest, depreciation, depletion, federal taxes, etc., compared with $1,758,934 in first half of 1924.

Net income for the June quarter this year totaled $2,081,495 against $1,105,739 in the preceding quarter and $586,319 in second quarter of 1924.

Consolidated income account for six months ended June 30, 1925, compares as follows:

	1925	1924
Gr. earn.	$10,813,531	$9,007,903
Op. exp.	3,880,010	3,666,654
Net earn	$ 6,933,521	$5,341,249
De. del. etc.	1,494,758	1,499,664
Dev. ex. etc.	1,650,913	1,567,983
Bd. int.	295,715	302,825
Fd. tax, etc.,	304,900	211,845
Net. inc.	$ 3,187,235	$1,758,934
Pfd. divs.	415,629	419,758
Com. divs.	608,195	608,195
*Sp. res.		260,634
Surplus	$ 2,163,411	$ 470,347

*Provision for redemption of preferred stocks and bonds of subsidiaries.

Consolidated income account for quarter ended June 30, 1925 compares as follows:

	1925	1924
Gr. earn	$ 6,044,001	$4,094,923
Ex. dp. dpl. etc.	3,621,406	3,283,030
Int. etc.	145,200	153,504
Fed. taxes	195,900	72,070
Net. inc.	$ 2,081,495	$ 586,319
Pfd. divs.	207,814	209,214
Com. divs.	304,097	304,097
*Spl. res.		107,928
Surplus	$ 1,569,584	†$ 34,920

*Provision for redemption of preferred stocks and bonds of subsidiaries.
†Deficit.

Shell Union Co.

Shell Union Oil Corp. and subsidiaries for quarter ended June 30, 1925, shows net profit of $7,049,803 after expenses, depreciation, depletion, etc., but before federal taxes, equivalent after preferred dividends to 68 cents a share earned 10,000,000 no par common shares. This compares with $4,505,205, or 42 cents a share in preceding quarter, and $6,103,589 or 58 cents a share in second quarter of 1924.

For six months ended June 30, 1925, net profit amounted to $11,555,008 equal after preferred dividends to $1.10 a share earned on the common, comparing with $11,465,685 or $1.08 a share in first half of previous year.

Consolidated income account for quarter ended June 30, 1925, compares as follows:

	1925	1924
Total income	$13,771,621	$12,392,788
Depr. depl. etc.	6,721,818	6,289,199
*Net income	$ 7,049,803	$ 6,103,589
Preferred dividends	247,194	295,752
Com. dividends	3,500,000	2,500,000
Surplus	$ 3,302,609	$ 3,307,837

*Before federal taxes.

Consolidated income account for six months ended June 30, 1925, compares as follows:

	1925	1924
Total income	$23,918,271	$23,452,726
Depr. depletion, etc.	12,363,263	11,987,041
*Net income	$11,555,008	$11,465,685
Preferred dividends	510,675	595,752
Com. dividends	7,000,000	5,000,000
Surplus	$ 4,044,333	$ 5,869,933

*Before federal taxes.

Tide Water Oil

The statement of earnings of the Tide Water Oil Co. shows a substantial gain in both gross sales and net profits in the first half of 1925. After all deductions the company reported a balance available for dividends equal to about $1.91 a share on the 2,027,716 shares of $25 par value outstanding. In the June quarter alone the earnings equaled about $1.16 a share on the new $25 par value stock.

The consolidated statement of earnings for the half year ended June 30, 1925, compared with 1924, follows:

	1925	1924
Gross sales	$37,497,219	$31,608,026
Oper. inc.	7,$59,986	6,179,138
Other inc.	186,461	290,667
Total inc.	$7,246,447	$6,469,805
Depr. and depl.	2,849,391	2,694,762
Net inc.	$4,397,056	$3,775,042
Otsde stk hldrs. prop	*19,822	*19,953
Federal tax est.	549,631	471,880
Surp. for stkholders.	$3,867,245	$3,323,116
Dividends	1,008,858	1,000,057
Surplus	$2,858,387	$2,323,059
P. & L. surplus	23,438,368	21,379,559

*Debit.

Simms Petroleum Co.

The Simms Petroleum Co. reported net income of $782,695 for the quarter ended June 30, after all deductions, including reserves for taxes, depreciation and depletion. This equaled $1.14 a share on the 685,060 shares of capital stock of $10 par. In the first quarter the company reported net income of $1,024,940, equal to $1.50 a share. In the June quarter last year earnings equaled $1.28 a share.

For the half year ended June 30 the company reported net income of $1,807,635, equal to $2.64 a share. In the first half of 1924 net income was $1,654,866, equal to $2.47 a share.

The report of the Indian Refining

(Continued on Page 154)

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE PRICES

Stocks—	Par	§Dividends Rate	Closing Quot. Aug 17	Aug 10	1925 High	1925 Low	1924 High	1924 Low	1923 High	1923 Low
American Republics	..	..	*56	*56	76	48	48	25	..	..
Associated Oil	25	8	36⅛	37¾	40¼	32	34⅝	27⅝	29¼	29½
Atlantic Ref. com.	100	..	99⅜	107	117½	95⅛	140½	78½	100	98¾
Barnsdall "A"	25	..	20½	20½	30	21	22½	14	37	9⅞
California Pet. com.	25	7	27⅜	27⅜	32⅞	23⅞	29	19⅞	28½	17½
General American Tank	..	†3	*45	45¼	58½	45	53	35½	71⅝	40
General Petroleum	25	8	46⅜	49⅛	59	42	46	38⅝	..	..
Houston Oil	100	..	63½	65	85	59	82½	61	78	49¾
Independent Oil & Gas	..	†1	26	25⅞	41⅜	13½	16¼	5⅜	11¼	3⅜
Indian Refining	10	..	8	7¾	10⅜	5½	7	8⅝	8½	4
Louisiana Oil	50	..	14⅜	15⅛	23⅜	14⅜	..	..	..	..
Maracaibo	..	..	22	22½	35½	25½	37½	25⅜	28¼	16
Marland	..	†3	41½	42½	46⅞	32⅝	42	29	59⅝	18½
Mexican Seaboard	..	..	*93⅛	13¼	22½	11½	25⅜	14⅛	19¾	5⅜
Mid-Continent Pet.	..	..	27⅝	28¼	36	26½	40¼	22⅝	62¼	23⅜
National Supply	50	6	*57⅛	57	71	61¾	72½	54	68	54
Pacific Oil	50	†3	52¼	54	65¼	52¼	58¼	45	52⅛	31½
Pan-American com.	20	12	61⅝	67	83⅞	64	65	44¼	93½	53
Phillips Petroleum	..	†2	39¼	40	47⅛	36¼	42¼	28½	69⅝	19¾
Producers & Refiners	50	..	15¼	15¼	32⅝	18	43½	29¾	58¼	17½
Pure Oil com.	..	6	26⅛	26¼	33⅜	25½	30¼	20	32	16⅛
Royal Dutch N. Y. sh.	13.40	4.42½	50	50⅜	57⅜	48¼	59½	40⅜	55½	40½
Shell Transport	10	3.30	41¼	41½	45⅝	39⅜	42	33	41¼	29½
Shell Union com.	..	†1.40	22⅜	22	28⅜	22½	22½	15⅜	19¼	12⅜
Simms Petroleum	10	..	19¾	20½	26⅜	19½	24	10⅜	16⅜	6½
Sinclair Consolidated com.	..	..	19½	19½	24⅞	17	27½	15	39⅜	16
Skelly Oil	25	..	24¼	23⅜	30½	21⅜	29	17⅛	35	12⅛
Standard of California	25	8	52⅜	54	67¼	56⅜	68½	55½	64½	47½
Standard of N. J. com.	25	4	39⅝	40⅝	47½	38⅜	42½	33	44¼	30⅜
Superior Oil	..	..	3	3⅜	6¼	3⅜	8⅛	2⅝	6⅜	2
The Texas Co.	25	12	47½	47¾	54⅜	42¾	45⅝	37¾	52⅞	34⅝
Texas Pacific Coal & Oil	10	..	11⅞	12⅞	23⅜	11½	15¼	8¼	24⅜	5½
Tide Water Oil (new)	..	4	30½	32	‡152	122	151	116¼	144	94
Transcontinental	..	..	4	4¼	5⅞	3⅞	6¼	3⅜	14¼	1¼
Union Oil of California	25	7.2	24	35⅝	43⅜	36¼	39	35½	..	..
Union Tank com.	100	5	*124	124½	134	118½	132⅞	94	114	106
White Eagle Oil & Ref.	..	2¼	25⅝	26¼	31⅜	25⅝	29⅜	23⅛	30⅜	29½
Standard Oil Stocks										
Anglo-American Oil	£1	25	22½	23	26⅝	18	18⅜	14⅝	19¾	13½
Borne Scrymser	100	12	*215	*222	240	212	264	150	153	110
Buckeye Pipe Line	50	14	*59	60¼	72	58½	85½	51	94	57½
Chesebrough Mfg. Co.	25	14	*51	*52½	70	48¼	52½	29¼	340	205
Crescent Pipe Line	25	..	15½	15½	15⅜	10	20	11¼	25	15
Cumberland Pipe Line	100	12	*150	150	151	128	148	108	117	80
Eureka Pipe Line	100	8	73	*72½	96	76	105	74	117¼	87
Galena Signal com.	100	5	48½	*46	68¼	46	69¾	52⅛	78	55
Humble Oil & Refining	25	4.8	58¼	60	72½	42½	43¾	36	41	28⅛
Illinois Pipe Line	100	12	133	130½	154½	127	161	123	171	115
Imperial Oil (Ltd.)	..	†2	30¼	30⅛	34½	27⅜	119	99	123	92
Indiana Pipe Line	50	8	*68	66⅞	84	66⅜	110	66	103	81
International Pet. Co.	10	x50	22⅞	23	28⅝	22⅛	24⅝	16⅞	24⅜	13¼
Magnolia Pet. Co.	100	4.5	136	138	159	131½	162	124	166	123
National Transit	12.50	16	20	20½	25½	22	25⅞	20⅝	29	19¼
New York Transit	100	3	51	*54	79	55	97	54½	138	70
Northern Pipe Line	100	6	81	81	88	80	107½	72	111	96
Ohio Oil Co.	25	8	60⅜	61¼	75¼	60	79½	53	85⅜	48⅜
Penn.-Mex. Fuel	25	..	*23	*25	44	35⅜	35⅝	27	45	10½
Prairie Oil & Gas	25	†2	52½	52⅝	65½	50¼	269	193	272	152
Prairie Pipe Line	100	8	123	125	127½	106	111	100	117	93
Solar Refining Co.	100	15	*210	212	259	200	240	170	212	161
South Penn Oil	100	..	151	166	197	139	176	117	196	100
South West Pa. Line	100	6	*60	*65	84	65	89	68	89	66
Southern Pipe Line	100	4	*77	79	103	78½	100	80½	116	87
Standard of Indiana	25	10	60¾	61⅝	70	59½	69¾	54½	69⅞	48½
Standard of Kansas	25	..	32½	33½	46	31	50½	32½	56¼	36½
Standard of Kentucky	25	16	121¼	123½	124⅜	114⅜	121⅞	101	109½	76
Standard of Nebraska	100	20	*233	240	270	244	262	198	280	186
Standard of New York	25	5.6	40	41	48⅝	41½	48	37⅜	49¾	35½
Standard of Ohio com.	100	10	*350	352	369	338	337½	277	320	270
Swan & Finch com.	25	..	*17	*16	27	16	28	20	..	..
Vacuum Oil	25	†3.75	85	86¼	96¼	80½	83¼	50½	55½	40
Washington Oil	10	..	*32	*30	30¼	30	29	25	28	20¼
Miscellaneous Stocks										
Continental	10	10	22¾	23¼	31½	21⅜	..	..	..	..
Gulf Oil Corp. of Pa.	25	6	72½	72¼	78½	63½	67¾	56	68½	45¾

*Bid, no sales. †In dollars. §The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share. ‡Old stocks.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Aug. 17	$1.25	July 13	55.98	June 8	56.37
Aug. 10	52.78	July 6	55.96	June 1	55.66
Aug. 3	54.51	June 29	56.36	May 25	56.04
July 27	56.21	June 22	57.29	May 18	55.32
July 20	57.13	June 15	58.61	May 11	54.86

DEPRECIATION

Every barrel of oil that flows from a well, that is pumped its lengthy course through a pipe line, or that emerges as gasoline or lubricating oil from a refinery, carries away with it a fraction of the value of the property used in its production.

Unless you know precisely what that reduction in value is, you cannot know definitely:

(1) How much to set aside to protect the integrity of your investment or your property.

(2) What your cost of operation is, and consequently whether your profit and loss statement is right or wrong.

(3) How to definitely prove to your stockholders or bankers the real worth of your physical assets.

(4) Whether your insurance coverage on insurable properties is adequate to assure full indemnification in case of loss.

The analysis of depreciation and depletion, the correct determination of actual investment in properties, and the establishment of provable value is possible only through appraisal service.

The importance of such an investigation demands the best available. Every day the owners of more than four million dollars worth of property express their judgment as to the best by retaining The American Appraisal Company.

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REFINING AND MARKETING

ABSORPTION PLANTS FOR INGLEWOOD FIELD

LOS ANGELES, Cal., Aug. 17.—Three natural gasoline and absorption plants have just been completed and four others will be completed in a month in the Inglewood Field. The plants just completed are: The California Gasoline Corp., the American Gasoline Co. and the Petroleum Securities Absorption Co. The Standard Oil of California, the Pacific Gasoline Co. and the Midwest Gas Co. are rushing construction on their plants. In addition the American Gasoline Co. is building an addition to its new plant.

OIL STORAGE LEGAL

OIL CITY, Pa., Aug. 17.—Holding than an ordinance of the borough Manorville prohibiting the storage of more than 400 gallons of gasoline, oils or other similar inflammable substances in any one place within the limits of the borough was unreasonable and arbitrary, Judge J. Frank Graff, in court of quarter sessions of Armstrong County, dismissed charges brought in the Borough of Manorville against the Sterling Oil Co.

The oil company maintained that its storage consisted of three all-steel, gastight tanks, properly vented and supported on concrete piers, electrically grounded and equipped with safety devises, and thus not unduly dangerous to life or property.

NEW OHIO COMPANY PLANT

ARTESIA, N. M., Aug. 17.—With a site already obtained, the Ohio Oil Co. is preparing to start construction immediately on a new refinery at Dayton, 8 miles southeast of Artesia. The proposed refinery will be supplied with crude from the Artesia field by the Illinois Pipe Line Co., a subsidiary of the Ohio Oil Co., through a line recently acquired from the Gilliland Oil Co.

The proposed refinery is in line with the reported plan of the Ohio company in building up marketing and refining branches in addition to its producing organization.

NEW CITIES SERVICE TANKER

NEW YORK, N. Y., Aug. 17.—The Cities Service Transportation Co. has purchased the American tank steamer Hadnot to supply crude oil to the new Crew-Levick seaboard refinery at Philadelphia. The Hadnot is the fifth tanker bought by the Cities Service Co. subsidiaries in the past 2½ years.

ASK RATE REPARATIONS

AUSTIN, Tex., Aug. 15.—Producers of casinghead gasoline or liquified petroleum in Burkburnett, Electra and other West Texas points, are asking for $248,419 of reparations on shipments made between July 22, 1921, and March 8, 1923, to Gates and Port Arthur. A rate of 25 cents was applied in 1923, and the producers are asking reparations on the old rate of 39½ cents to conform to the new. The case will be heard by the State Railroad Commission here November 10.

PINE BLUFF MARKETERS

LITTLE ROCK, Ark., Aug. 18.—A warehouse, office, tanks and other buildings to cost about $30,000 are to be erected at Pine Bulff, Ark., by the Super-Service Oil Co., a firm recently organized there by local business men to engage in the wholesaling and retailing of gasoline and oils. Interested in the company, which is to apply for a State charter, are Edward S. Dilley, C. K. Elliott, C. K. Elliott, Jr., and F. C. Hoskins.

RELATIONSHIPS BETWEEN CRUDE OIL LEAVING LEASES AND RUN TO STILLS

The accompanying map showing graphically the relationship between crude oil leaving leases and crude runs to stills for the year 1924 was compiled by the Western Petroleum Refiners Association. The circles are drawn true to scale so that relative areas offer a comparison of actual quantities.

The legend used is as follows:

Black—Crude leaving leases.

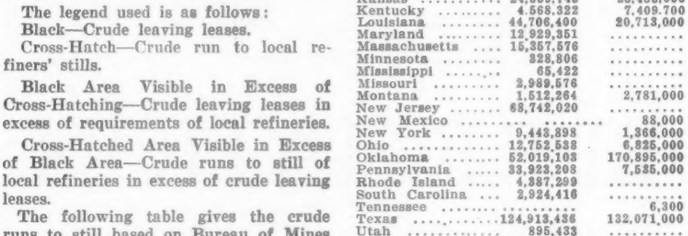
Cross-Hatch—Crude run to local refiners' stills.

Black Area Visible in Excess of Cross-Hatching—Crude leaving leases in excess of requirements of local refineries.

Cross-Hatched Area Visible in Excess of Black Area—Crude runs to still of local refineries in excess of crude leaving leases.

The following table gives the crude runs to still based on Bureau of Mines report and the crude leaving leases as compiled by the U. S. Geological Survey for last year—

	CRUDE OIL	
	Run to stills (Barrels)	Leav. Leases (Barrels)
Arizona	111,883	.....
Arkansas	4,644,832	44,209,000
California	149,279,988	230,064,000
Colorado	338,227	404,000
Georgia	1,316,866	.....
Illinois	24,320,957	8,065,000
Indiana	17,912,335	935,000
Iowa	332,352	.....
Kansas	24,359,745	28,483,000
Kentucky	4,568,322	7,409,700
Louisiana	44,706,400	20,713,000
Maryland	12,929,351	.....
Massachusetts	15,357,576	.....
Minnesota	328,806	.....
Mississippi	65,422	.....
Missouri	2,989,576	.....
Montana	1,512,264	2,781,000
New Jersey	68,742,020	.....
New Mexico	.....	85,000
New York	9,443,893	1,366,000
Ohio	12,752,538	6,825,000
Oklahoma	52,019,103	170,895,000
Pennsylvania	33,923,208	7,535,000
Rhode Island	4,387,299	.....
South Carolina	2,924,416	.....
Tennessee	.....	6,300
Texas	124,913,436	132,071,000
Utah	895,433	.....
Virginia	1,462,884	.....
West Virginia	3,188,800	5,927,000
Wyoming	23,991,412	39,488,000
U. S.	643,719,349	707,265,000



CHICAGO TRADE NOTES

CHICAGO, Aug. 15.—The National Petroleum Marketers Association is working away busily through committees gathering refining data. President L. V. Nicholas has now appointed an organization committee which is headed by Walter Anderson of the Winona Oil Co., a very large distributor of petroleum products, which in connection with the refining committee headed by Aubrey Maguire is working for the real facts regarding the proposal to plan and build a refinery. The Power Specialty Co., of New York City has been secured as the expert advisor and the representative of this organization together with President Nicholas and the heads of the committee held a conference at the office of the organization on Thursday.

The slogan of the movement, according to Mr. Nicholas is, to get the facts and make no mistakes. Whatever recommendation is made must be backed by such substantial reasons as to make success of the project if once adopted by the members assured. The membership of the organization committee, as announced by President Nicholas, follows: Walter Anderson, Winona Oil Co., Winona, Minn, chairman, H. H. Brownell, Brownell Corp, Sioux Falls, S. D., S. S. Cramer, Wadhams Oil Co., Milwaukee, Wis., E. E. Smith, Smith Oil & Refining Co., Rockford, Ill., C. H. Armould, Armould Oil Co., Hamilton, Ill., E. E. Bessire, Radiant Oil Co., Lima, Ohio and Charles Rosenthal, Apex Motor Fuel Co., Chicago.

The National Petroleum Marketers Association has reduced to an exact form and offered to its members a plan by which the independent dealers can offer the same discounts to buyers of gasoline at different stations as is offered by the Standard Oil Co., to those with whom it makes contracts, applying the purchases made by the contract owner at different stations or localities to the one account in estimating the discount due.

The American Fuel Oil Corp., has been incorporated at Chicago with a capital stock of $50,000 to deal in fuel oil, gasoline and all petroleum products. The offices are at 105 W. Monroe St., and the incorporators, Paul Vitek, Stephens Sivak and H. J. Hedges.

J. K. Fagin, a well known Chicago oil man, who at one time represented the White Petroleum Corp., in Chicago and before that was connected with the Republic Petroleum Co., a local distributing organization, now represents the Keen & Woolf Co., of Houston, Texas, in the sale of its lubricating oils in this territory. He has severed his connection with the Wojak Oil Co., a local distributor.

The Ackerman Oil Co., of Milwaukee, Wis., is still in the hands of E. T. Sadler as receiver and it is not expected the affairs will be liquidated for several months. The Lake Shore Oil Co., Julius Sieg, President, of Cudahy, Wis., a suburb of Milwaukee, has bought the bulk storage plant of the Ackerman Oil Co., and is serving the customers of the company in the neighborhood of the plant.

PROGRAM FOR A. O. M. A. CHICAGO CONVENTION

CHICAGO, Ill., Aug. 17.—Special attention will be given at the fall convention of the American Oil Men's Association at Chicago, October 20, 21 and 22, to the question of educational and scientific development of the oil industry according to H. G. James, secretary.

Extensive prepartions are being made for the convention, according to Mr. James, who says the program will be even better than the one at the Kansas City convention last March.

Booths for exhibitors have been in great demand, Mr. James said, and now only a limited number are available.

BUYS KERN RIVER REFINERY

LOS ANGELES, Cal., Aug. 17.—J. M. Stockfish of San Francisco has purchased the old refinery of the King Refining Co. at Kern River together with several producing wells of the Section Five Oil Co. and will resume operations of the refinery in the near future. Mr. Stockfish will operate the plant chiefly for lubricating oils. The plant has a capacity of 450 bbls. of crude daily.

DISMANTLE UNCLE SAM PLANT

KANSAS CITY, Kans., Aug. 17.—Dismantling of the old Uncle Sam oil refining plant here is under way. When the equipment is disposed of the land will be leased to railroads. The Uncle Sam plant was equipped for extensive operations but was sold under receivership sale after costing investors several million dollars.

PAN AMERICAN NAVY CONTRACTS

With the operation of the California properties of Pan American Petroleum & Transport Co. by the Pan American Western Petroleum Co., the company will complete construction of the 3,000,000-bbl. oil reservoir near Los Angeles. It is understood that in the separate operation of the Mexican and Western properties, Pan American Petroleum & Transport Co. will take over the obligation to sell products to the United States Navy on the Eastern and Gulf Coasts, while Pan American Western will handle the Navy contracts on the Pacific Coast.

BIGGER KEEN & WOOLF PLANT

HOUSTON, Texas, Aug. 17.—Capacity of the plant of the Keen & Woolf Oil Co. here has been increased 30 per cent and now is running from 1,800 to 2,000 bbls. of crude daily to its stills. The plant makes cold test lubricants from Coastal crude. J. K. Fagin, formerly with the old White Oil Corp., now the Crown Central Petroleum Corp., has been appointed sales agent with headquarters at Chicago.

BUREAU OF MINES STATISTICS

WASHINGTON, D. C., Aug. 15.—A division of mineral resources and statistics to handle work relating to petroleum or any of its products has been formed under the Bureau of Mines with Frank J. Katz, engineer, in charge. The work was formerly performed by the resources division of the geological survey. The new division represents a consolidation of two similar departments of the two separate Government agencies.

ITALY'S GASOLINE TAX

WASHINGTON, D. C., Aug. 17.—Italy's tax on gasoline sales has been reduced from 60 to 30 lire a 100 kilos, it has been learned here.

Brief Items for Plant Operators

USE MIXED BASE CRUDE FOR LUBRICATING OILS

LOS ANGELES, Calif., Aug. 15.—Announcement of the discovery of a method for extracting lubricating oils from mixed base crudes was made by James W. Weir in a special report to the petroleum, gas and fuel chemistry division of the American Chemical Society in convention here.

The discovery will make available for lubricating purposes vast deposits of mixed base crude, which until now have baffled efforts of chemists to extract lubricants. The discovery, according to Mr. Weir, consists of a new filtering process by which all wax components of crude bases can be eliminated.

LUBRICATING TEST

An article in Lubrication says: When the cylinder heads were removed from engines which had been operated in the cold room at temperatures around zero and below, it was noticed that a coating of rust had formed on the cylinder walls even though they were covered with a film of oil. This rusty coating formed with almost incredible speed, inside of 10 or 15 minutes, and would absorb what oil was present leaving a dry, red surface on the cylinder walls. The rusting was not entirely confined to cold room engines but occasionally was to be seen in a less aggravated form in engines which had been run on the block with cold water circulating through them. This was never the case when hot water was circulated through the system. The basic cause of all the trouble was condensation on the cold cylinder walls of water which ruined the lubricating properties of the oil film, and, under certain conditions, caused the cylinder walls to rust, thus increasing the scuffing.

TRY FIELDS PROCESS

LOS ANGELES, Cal., Aug. 17.—A test run is being made at the refinery recently completed at Newport Beach by John D. Fields and associates. The plant is owned by the Consolidated Development & Production Co.

The process, invented by Mr. Fields, permits of continuous operation in the plant under low temperature conditions without the necessity of frequent shutdowns to cut carbon out of the stills. The plant is working on Newport Beach crude, which is of heavy asphaltum base, and is turning out heavy lubricants, distillate and other products

GOVERNMENT PUBLICATION

The Bureau of Census of the Department of Commerce has just issued its 1923 report covering petroleum refining in the United States. The report consists of 10 pages and is available at a cost of 5 cents from Superintendent of Documents, Government Printing Office, Washington, D. C.

NEW STILLS AT BLACKWELL

The Globe Oil and Refining Co., has just completed the installation of two new 10 by 40 feet stills at its Blackwell, Okla. refinery. These stills with other minor changes have increased the plant's capacity from 5,000 to 6,000 bbls. daily. The company is also building a 55,000-bbl. tank for crude storage.

REBUILD CAMDEN PLANT

HOUSTON, Tex., Aug. 17.—The Houston Oil Co. will rebuild that portion of its refinery at Camden, Ark., which was destroyed by fire last month, entailing a loss of $100,000.

ENLARGEMENTS MADE AT PONCA CITY REFINERY

The Marland Refining Co. has started work on a $200,000 enlargement program to its boiler plant at the Ponca City, Okla. refinery. At the present time an extension to the boiler house 75 feet by 40 feet and 45 feet high is being built. This will house four new 550 h. p. horizontal water tube boilers which will increase the number of boilers to sixteen. The new boilers are of the cross drum, sectional forged seemless steel header type, the first to be installed at a Mid-Continent refinery. Each boiler is 25 feet long, 14 feet wide and 25 feet high including furnace. At present the refinery has ten 300 h. p. boilers and two 550 h. p. The new boilers with their 200 per cent rating will increase the plant's capacity to 12,800 h. p.

In connection with the enlargement program a 165 feet stack, 11 feet at the base is being erected. A 30,000 gallon settling plant with two additional filters will also be built to provide the necessary increased capacity for water treatment.

New Laboratory

The company is now completing the erection of a 60 by 114 feet brick building which will house the refinery laboratory, the engineering department, the office of the superintendent, an assembly room for employes, together with lockers, shower baths and laundry facilities. The building is three stories, including the basement.

With the completion of the building located near the main entrance the refinery's laboratories will all be located on the top floor of the building. The ground floor will provide offices for the superintendent and his assistants and also the engineering department. The accommodations for employes, including the assembly room, will be located in the basement floor. All the offices which will be consolidated in the one building, have been scattered throughout the refinery in the past.

NEW BENZOL-GASOLINE MARKETED ON COAST

LOS ANGELES, Calif., Aug. 17.—Development of an industry producing a new type of motor fuel comprising a blended gasoline and benzol is under way on the Pacific Coast, according to E. L. Hall, general superintendent of the Portland Oil & Gas Co.

Mr. Hall points out that chemists claim a highly superior motor fuel can be obtained under the new process of blending benzol with gasoline. The Portland plants of Mr. Hall's company has been able to obtain this benzol as a by-product of its gas and coke productions, and, for the first time in the history of the Pacific Coast, the company is putting the new fuel on the market in commercial quantities.

NEW SUSPENSION TYPE STILLS

SHREVEPORT, La., Aug. 17.—Breaking records, a two week's job of installing new suspension type stills has been completed in six days at the Gas Center refinery of the Louisiana Oil Refining Corp. The rapid installation was made by the company's engineers working day and night. The new equipment, designed in the company's offices, will speed up production materially, it is claimed.

AMONG THE TECHNICAL MEN

Lloyd F. Bayer, vice president and operating head of the Tidal Refining Co., is known among Mid-Continent plant operators, primarily for the contributions he has made at different times to the advancement of the natural gasoline industry. Entering that industry during the period which marked its development as an important factor in the manufacture of motor fuels, Mr. Bayer has taken part in many of the improvements which have added to the volume and value of natural gasolines. He has also been able to devote part of his time to petroleum refining to which the manufacture of natural gasolines is closely allied and at present he has charge of two refineries.

L. F. Bayer

All of Mr. Bayer's experience in the oil business has been with one oil company. He entered the employ of the Tidal Gasoline Co., now known as the Tidal Refining Co. as an engineer. Previous to being made an executive and director he served as chief engineer and director of manufacturing. Up to 1920, the company's activities were confined to the manufacture of natural gasoline. In that year a refinery which at present has a capacity of 6,500 bbls. was built at Drumright, Okla., under Mr. Bayer's supervision.

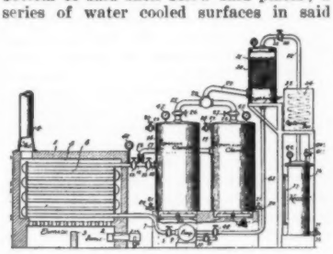
The company's properties have gradually expanded until they now consist of 10 natural gasoline plants having a capacity of 60,000 gallons a day with an additional refinery at Burkburnett, Tex., with a capacity of 3,000 bbls. daily. Some of these properties are owned by allied companies known as the Tidal Western Oil Corp. and the Tidal Chelsea Refining Co., of which Mr. Bayer is also vice president. He is also a director in the Romarti Gasoline Co., owned jointly by the Tidal, Marland and Roxana companies which operates a natural gasoline plant in the Burbank Field of Oklahoma.

Mr. Bayer received a degree in mechanical engineering from Stevens Institute of Technology in 1914. Previous to his connection with the Tidal interests he was employed by the New York and Queens Electric Light & Power Co., Long Island, N. Y. He is a member of the executive committee of the Association of Natural Gasoline Manufacturers Association and has contributed several papers at the meetings of the association.

Recent Patents

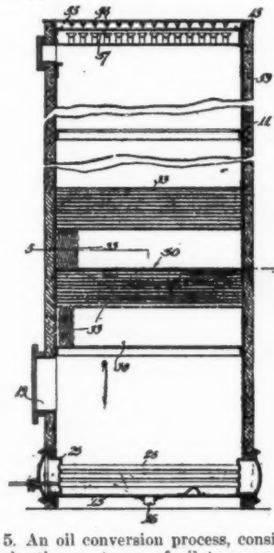
1,549,068. DEPHLEGMATOR. Samuel J. Dickey, Los Angeles Calif., assignor to General Petroleum Corporation, a Corporation of California. Filed Sept. 7, 1920. Serial No. 408,670. 8 Claims. (Cl. 196—139.)

1. A dephlegmator comprising a shell; a series of sections, each section being formed of parallel corrugated plates forming tortuous passages through said shell having a substantially vertical direction, the plates of one section being at an angle to the plates of the adjacent section; means of passing vapor into the bottom of said shell below said plates; a series of water cooled surfaces in said



shell above said plates; means for distributing the condensate from said surfaces uniformly over said plates; means of withdrawing a low boiling point distillate in vapor form from above said condenser; and means for withdrawing a condensate of high boiling point from the bottom of said shell.

1,549,352. PROCESS FOR CRACKING OIL. Carbon P. Dubbs, Wilmette, Ill., assignor to Universal Oil Products Company, Chicago, Ill., a Corporation of South Dakota. Filed Dec. 9, 1920. Serial No. 429,306. 6 Claims. (Cl.196—58.)



5. An oil conversion process, consisting in heating a stream of oil to a cracking temperature, in delivering the oil to one of enlarged alternative chambers, in diverting the stream of oil from said chamber when substantial coke disposition has occurred therein to the alternative chamber, and in heating said alternative chamber before diverting the oil stream by heating a body of oil introduced thereto by applying external heat to said alternative chamber.

CHICAGO CONSUMPTION AT PEAK BUT GASOLINE VERY FREELY OFFERED

By J. B. Waldo

CHICAGO, Aug. 15.—Although there has been rain in some sections of the territory during the week it has had little effect on the gasoline consumption which is large and promises to continue at a high peak during the remainder of the month. Every jobber talked to, and the representatives of the larger companies whose stations cover a considerable part of and in some cases the entire territory, state that they are having an excellent business, better than last year. The Standard reports its business is very good and all see no reason in present ruling conditions why this demand from consumers should not continue until the opening of schools and shorter days in the northern parts of the territory combine to restrict touring. The number of cars owned in the district which is served by this city is greater than ever; they are being used freely, as the weather has been favorable. There may be some car owners with whom driving has lost its novelty and some of its pleasure since the roads have become so congested, who do not drive as much as formerly, but for each one of these there are hundreds of owners who have bought their first car so recently they find driving and touring a pleasure no matter what the congestion of the more traversed roads may be.

Jobbers' stocks are probably being reduced to some extent by this great consumption, but they are still pursuing their plan by buying for immediate needs only. The jobber who might be expected to buy from one to twenty cars, orders three or four and then orders again the same amount. The five-car buyer places his orders a car at a time. The result is that the amount of business done is underestimated and some marketers have been surprised at the total sales the record showed. It is a time when orders are not so easily secured and coming as they do, in "dribs," the tendency is to underestimate the actual volume. July was one of the best months for this year, at least with many of the Chicago car-lot distributors of petroleum products.

Gasoline Freely Offered

Gasoline has been very freely offered from all sources. Shreveport refiners for a week or more have been offering their output at a price usually one-quarter of a cent below the Group 3 market. North Texas has also been seeking buyers at about a par with shipments from Group 3 but after all the chief offerings have come from the Group. It is evident that there are many refiners who have little confidence in the markets holding and are anxious to move their stocks. The price reductions of some of the crudes—although only those with small volumes of output have been cut—has made many think that the more important crudes would be the next to feel the knife and the Eastern cuts in tank wagon prices have all encouraged the short seller of gasoline. Short selling has the tendency to reduce prices and prices have declined especially for future delivery.

The demand is still largest for the 56-58—450 grade and this is holding its price better than the U. S. Motors grade or the high gravities. At the close there was barely one-quarter of a cent between the 450 and the 437 end points and the higher tests were put to it to maintain a differential of a cent a gallon. The demand for natural gasoline has been light and prices are a little lower.

Kerosene Fairly Strong

Kerosene is fairly strong. Most of the local trade would say it is the strongest item in the list of petroleum products today. The demand is wide and active and the 42-44 is sparingly offered and rather hard to buy for prompt shipment. There is some increased consumption due to the harvest time but most of the demand undoubtedly come from the storing of kerosene against the winter's consumption. The 41-43 gravity can be purchased for prompt delivery by the trade at 4¼ cents while for the 42-44 little, if any, can be bought at less than 4⅝ cents and several dealers are asking 4¾ cents. The demand is expected to continue although when the jobbers' storage is once filled there may be less activity to the demand which will then depend on the actual consumption which is not what it used to be a few years ago.

Furnace Oil Wanted

Furnace oil of all gravities but chiefly in the 38-40 and the 32-36 gravities is wanted. The latter, which is of course a good gas oil, is one of the most useful commodities that can be bought by the oil jobber. Most of them sell quantities for furnace oil, some is sold to industries and it comes in very handy for blending to reduce the heavier oils if any are carried by the distributor. The gas oil for furnace use must have a low cold test and a reasonably low flash. Some sold widely here has a cold test of zero to 5 above, a flash from 180 to 200 and is slight in color and has a sweet odor. It easily commands 3⅜ cents spot and contracts are being made at 3⅞ cents over the winter and spring delivery in stated amounts from month to month. The distillates are also selling well and are higher in price, especially for future delivery. There has been an active spot demand for both the 36-38 and the 38-40. Only a few refiners have any prime white distillate to offer now and the demand is small and the price so close to that of kerosene that most jobbers will prefer to deliver kerosene to such as insist on having this grade of furnace oil rather than stock an additional oil which is not a larger seller.

Fuel Oil Puzzles

Fuel oil continues to rather puzzle the trade. There is apparently little belief that there will be an important tie-up in the coal industry. Many of the leading industries believe President Lewis of the miner's association is simply bluffing. The prediction is made in some quarters that the operators would not wholly object if a shut-down were forced on them in such a way that the public sympathy was with them as the miners would have most to lose and in fact could hardly prevent the coal from being mined except by actual violence which would take from them whatever sympathy might be with the miners at the start.

With no coal strike the trade figures there is plenty of fuel oil if not more than is needed. Some oil men who have been in the Smackover Field state the operators in that field are very confident that the difficulties attendant on drilling to the lower sands will be overcome and that the production will again equal its highest peak. If this is the case the refinery fuel oil will have a strong competitor in this market. It is significant of some change that Smackover fuel oil is being more freely offered here now than during recent weeks. It may be partly due to the release of cars by the opening of the Standard pipe line. One report is that the Standard Oil Co. (La.), has reduced its loadings by approximately 175 cars a day which, allowing for the time consumed in a round trip, might mean from 1,500 to 2,000 cars.

Refiners in the Group 3 and in North Texas are now offering their fuel oil quite freely. Some who have nothing to offer for several weeks are now seeking buyers and this may preface a lower cost although as yet prices for refinery fuel oil are firmly held. However, Smackover treated crude is being offered more freely and some has been bought during the week for delivery over the month at less than $1. One purchase was made at 97½ cents and could have been duplicated at the time although later the offer was withdrawn, the oil having been sold to go south. The chief outlet for Smackover fuel oil naturally would be south rather than north but if the production should increase to anything like the former proportions much would be available for shipments northerly.

Holding Back Orders

The demand for fuel oil is not active and many of the best sources of orders are holding back and buying what they must have or taking the minimum quantity under their contracts. There has been some quiet filling of tanks by a few industrial concerns and some railroads are stated to be buying outside of their contracts as the spot market is lower than their contract price based on crude costs. The majority of the buyers will only order what they need and they try to get just as low prices as they can, as is natural, but they take their time about placing the order and then demand rush shipments. There is little difference made in the prices of the various gravities from 24-26 downward unless it be some of the very low gravity oil from the pressure stills which is now offered quite regularly as low as 16 and even 14 gravity. The market for the 24-26 and gravities a few degrees lower ranges from $1.05 to $1.10. One large refiner is quoting direct to the consumers at $1.07½ and this seems to be the average right now with the market waiting for some decided tendency to develop.

Lubs Uncertain

In lubricating oils the same rather uncertain tendency is noted. The decline in Eastern crudes has a weakening influence and the approach of the end of the touring season is preventing jobbers from replacing depleted stocks as fast or as largely as they would were it earlier in the year. It is a real fall market, with a tendency as usual, to let stocks run down in the summer oils and replace them sparingly with oils used in cooler weather. At least this is the general impression given, although some refiners and compounders still claim their business is distinctly good. There is very keen competition for business. The present tendency is to make contracts with distributors in which the distributor agrees to sell only the product of certain refiners receiving in return sales assistance in various ways. These aids take the form most commonly of advertising, both national and local, ranging from displays in the national magazines of large circulation down through the local papers, display signs and countryside displays. Quite extensive strings of jobbers are being enlisted to fight for business under the banners of the various refiners and some of the well known brands promise to become as prominent a feature of railway scenery as in the older days was Bull Durham and the Ingersoll watch. The leading highways are favored positions for this advertising. There has always been a good profit in lubricating oils and greases but some of the profit is going to the advertising accounts. Doubtless they hope to reap their reward in a permanent business, if the other fellow will stop advertising and this is compelling the others to spend more and more.

Tank Wagon Talk

There is much talk of a coming tank wagon decline in the territory of the Standard Oil Co., (Ind.) but at the office of the company it is said that they have not begun to think about it yet—but they are quick thinkers at times. The general trend seems to be towards a reduction and the question is, when? Will the Standard continue to follow its recent policy of reducing or advancing the tank wagon price only as crude is advanced or declined? The company seems to be committed to that idea, yet even great organizations may exercise the ladies' privilege of changing their mind.

Out in South Dakota the gasoline commission or state warehouse commission is following the refinery markets down and the Standard and independent dealers are keeping right in line. In spite of the protests of the industry somebody sells the commission gasoline as they could not very well help doing just as in a hundred other points the price cutter has no difficulty in making purchases. An oil man who returned from a point in Indiana stated that gasoline was being retailed there by some company, not an oil company, at 6½ cents under the tank wagon price. Of course the large companies with many filling stations do not particularly feel the competition of the single station or the single pump for it frequently is no more than that but it does cut heavily into the profits of the local dealer or station.

Cut Price Demonstration

If the dealers in other lines were to take some interest in the fight against these cut price concerns it might be possible to restrict their business at least but in several cases the dealers in other lines have been found to be patrons of the cut price gasoline dispenser. One case has been reported where an oil jobber at least attempted to bring it home to the dealers in his town that they were in danger of possible competition from such sources by buying quantities of some product which was in popular demand at the time and selling the articles at a little above cost but greatly below the prices at which these commodities were sold by regular dealers. One of his object lessons was a lemon day during which he retailed from his stations lemons at about one-half the regular price in his town and got back more than the cost of the fruit and the announcements.

Locally the advent of the discount scale inaugurated by the Standard Oil Co., on July 1 has not stopped price cutting. There are stations which openly announce they are selling at less than the regular station price. Some dealers here say nothing will put a stop to it but a reduction of 2 cents in the tank wagon and holding crude where it is. This they claim would force refiners to reduce their runs to an extent that the margin would be so narrow there could be no price cutting, at least by oil men, who depended on the profits of the business to keep their places open. Of course if the big mail order house establishing branch retail stores as additional outlets for their merchandise want to cut the price of gasoline to draw customers to their places of business, they will do so. They might do it very easily in Chicago as they provide parking space for their customers as the stores are outside of the business districts and must depend on auto customers to a great extent. A little pump, a little sign and if they want to follow the plan of cutting prices on sugar they might advertise that gasoline would be sold only to actual customers who could show receipts for $5 worth of merchandise bought and paid for.

The Standard Oil Co., (Ind.) announces that its present tank wagon scale for Stanolind furnace oil is 1 to 149 gallons at one delivery 9½ cents per gallon; 150 to 399 gallons 8½ cents; 400 gallons and over 8 cents. These are the prevailing distillate prices in Chicago.

GREYBULL REFINERIES UNDER ONE MANAGEMENT

CASPER, Wyo., Aug. 17.—Consolidation of its plant at Greybull with the refinery formerly owned by the Midwest Refining Co. has been completed by the Standard Oil Co. of Indiana with the placing of both plants under one management. B. L. Warren is superintendent of the consolidated plants; H. M. Lockard is assistant, and J. F. Fletcher, general foreman.

Although the Standard Oil Co. of Indiana purchased the Midwest and took over the refineries some time ago, the plants have been operated separately until now.

DUTCH EAST INDIES SHOWINGS

The Dutch Colonial Petroleum Co., belonging to Standard Oil Co. of N. J., has discovered oil in two new localities in Djambi and Batjan Island, Dutch East Indies.

PRICE REDUCTIONS FEATURE EAST; AND IT IS BELIEVED MAY GO FURTHER

By N. O. Fanning

NEW YORK, Aug. 15.—Price reductions affecting gasoline, fuel oil, gas oil and lubricants featured the refined oil trade on the Atlantic Seaboard during the past week.

The Standard Oil Co. of New York cut the tank wagon price of gasoline throughout its territory, comprising New York and New England 2 cents per gallon to 20 cents. The Standard Oil Co. of New Jersey made two reductions of 1 cent per gallon each throughout its territory, bringing the tank wagon market down to 17 cents. Atlantic Refining reduced prices in Pennsylvania and Delaware. Leading independents met these reductions everywhere, and some of the smaller independents went further. In Boston two small independents have made reductions so far amounting to 4 cents per gallon.

It is believed that price reductions will go further unless there is some unforeseen and radical change in existing market conditions. California gasoline is being delivered at Philadelphia, New York and Boston in cargo lots at 12 cents per gallon.

The tank car market in the East also is weak, as a result of a flood of Mid-Continent offerings. Mid-Continent material is being offered here as low as 12 cents per gallon to meet competition with California gasoline.

With plenty of gasoline available at eastern ports as low as 12 cents, it is difficult to see how the tank wagon structure can be maintained much above 15 cents.

Gasoline Not Drug on Market

In speaking of the posibility of 15-cent tank wagon gasoline, the writer does not wish to go on record as overpessimistic regarding the situation. Statistically, the gasoline situation is about as good as a year ago—that is, so far as production and stocks at refineries are concerned.

The principal weakness in the current gasoline situation lies in the surplus number of filling stations, each having a small stock of gasoline which is being pressed for sale more urgently as the number of competitors increases. As pointed out before, any drop in consumption for reasons of bad weather or otherwise, makes it more difficult for many stations to pay for themselves. It is the consensus of opinion that the weak ones must be wiped out before the gasoline situation is stabilized again.

There is a practical certainty that one reason for the increase in gasoline sales by refiners has been due to the large number of new service stations starting in business, and that to a certain extent not all of this gasoline has actually gone into consumption. In each individual case the amount is small, but multiplied by thousands, it has an effect on the market.

Production will Be Cut

Reductions in gasoline prices, if they go far enough, will doubtless reduce refinery operations, and it is believed here that the market will right itself in short order as soon as that takes place.

Fuel and Gas Oil Soft

Bunker fuel oil was reduced on the Atlantic Seaboard an average of 10 cents per barrel to $1.65 per barrel. Diesel engine oil was cut from $2.30 to $2.10 per barrel. This was due to the increased availability of Smackover heavy oil and larger receipts of fuel oil from California and Mexico, all coming at once.

Gas oil was reduced one-half cent per gallon to 6¼ cents f.o.b. refinery, Bayonne.

Despite the reduction in fuel and gas oil, authorities believe the market will improve from now on due to seasonally heavier consumption which is not far off. Contracts for fuel oil for 1926 are usually made between September and December. The probability of a serious coal shortage should also stimulate fuel oil consumption.

Although cylinder stocks were reduced 1 cent last week the lubricating oil market as a whole is giving a good account of itself. The demand from the industrial trade is steadily increasing, and the export movement is showing good gains. The automobile demand for lubs is also holding up exceptionally well. No concessions are reported being made to large consumers.

Wax Unchanged

The wax market is unchanged, with business on a narrow basis. No sign of improvement is noted.

Export Market Improves

The export movement from New York continued to improve, especially in gasoline, kerosene and lubricating oils. Apparently stocks of oil abroad have been depleted considerably by the hand-to-mouth buying which has prevailed since March, last.

Exports of gasoline reported during the week ended August 12 aggregated 3,705,678 gallons, including 2,272,168 gallons in bulk and 1,433,510 gallons in cases. The bulk shipment went to Denmark.

Shipment of kerosene included 707,410 gallons in bulk to Denmark and 2,606,060 gallons in cases to various parts of the world, particularly the Far East.

Barrel exports of lubricating oil held up exceedingly well, amounting to 1,000,350 gallons, against 1,548,950 gallons the preceding week.

Prices a Factor

The downward tendency in oil prices in the United States is expected to bring out new interest on the part of European petroleum buyers. Already inquiries from England, France and Germany have increased.

The following table shows the principal exports of petroleum and petroleum products from New York during the past three weeks. (Figures in gallons unless otherwise noted in parenthesis):

	Week ended		
	Aug. 12	Aug. 5	July 29
Gasoline—			
Bulk	2,272,168	.....	.....
Cases	1,433,510	4,272,300	1,250,930
Kerosene—			
Bulk	707,410	.....	.....
Cases	2,606,060	2,671,410	1,422,860
Lubricating oil—			
Barrels	1,000,350	1,548,950	1,080,400
Cases	227,320	229,490	47,800
Lubricating grease—			
Barrels	1,342	.....	2,067
Paraffin wax—			
Bags (Lbs.)	535,920	686,400	217,140
Petroleum asphalt—			
Barrels	11,847	1,143	.....
Crude oils—			
Barrels	150,650	15,450	.....

The oil tanker chartering market was at a standstill during the past week. Some chartering agents report increased inquiries for export fixtures.

Oil Receipts Low

Estimated receipts by water of crude and refined petroleum at Atlantic Coast ports fell off badly last week, amounting only to 469,000 bbls. daily, the smallest in many weeks. This was due largely to smaller receipts from the Gulf Coast.

Receipts from the Gulf averaged only 291,000 bbls. daily, compared with 445,000 bbls. the preceding week, a decline of 154,000 bbls.

Daily average receipts from California were 83,000 bbls. daily, against 41,000 the week ended August 5, an increase of 42,000.

Imports averaged 95,000 bbls. daily, compared with 116,000 the preceding week, a decline of 21,000.

The Oil and Gas Journal estimates that of the total receipts from the Gulf and Pacific Coasts, amounting to 2,616,000 bbls., 1,727,000 bbls. consisted of crude petroleum and 889,000 bbls. refined oil.

Total estimates for the week ended August 12 and August 5, compare as follows, (not including imports):

	Aug. 12	Aug. 5
Crude Oil	1,727,000	2,296,000
Refined oil	889,000	1,000,000
Total	2,616,000	3,296,000

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three months; also monthly record for the last 12 months (figures in barrels):

	Week ended		
	Aug. 12	Aug. 5	July 29
Gulf Coast	291,000	445,000	400,000
Pacific Coast	83,000	41,000	57,000
Imports	95,000	116,000	95,000
Total	469,000	602,000	552,000

Daily Averages By Months

1925—	Gulf	Pacific	Impts.	Total
July	391,000	63,000	107,000	561,000
June	379,000	66,000	118,000	563,000
May	312,000	81,000	145,000	538,000
April	353,000	78,000	101,000	532,000
March	273,000	82,000	135,000	490,000
February	262,000	51,000	147,000	460,000
January	311,000	77,000	133,000	521,000
1924—				
December	306,000	83,000	85,000	474,000
November	246,000	80,000	150,000	476,000
October	246,000	120,000	88,000	454,000
September	270,000	104,000	101,000	475,000
August	310,000	127,000	84,000	521,000

The foregoing estimates are based upon carrying capacity of incoming oil-laden vessels.

CALIFORNIA ANXIOUS ABOUT EASTERN CUTS

LOS ANGELES, Calif., August 15.—The California oil industry is apprehensively watching the marked decline in the prices of gasoline and crude in the Eastern, Mid-Continent and Gulf Coast markets. These price cuts, together with the locally increased production of crude, have noticeably weakened the Pacific Coast market. It is argued here that the break in the eastern market signifies that the demand for California gasoline has been satisfied. Tanker shipments of gasoline from California are expected to fall off, but the demand for gasoline on the Pacific Coast is the greatest ever experienced and for this reason no immediate drop in prices is expected. Unless there is a decided stiffening in the oil market nationally a price cut must come, probably in the fall. Such a reversal in the market east of the Rockies is really more than even the most cheerful marketers on the Pacific Coast dare hope for.

The Inglewood Field has apparently reached its peak and has started to decline. This is somewhat of a relief, but the production in this field is still close to 110,000 barrels a day which means that California will be suffering from a crude surplus for some time to come. The big companies are actively constructing 2,000,000- and 3,000,000-bbl. reservoirs to meet the urgent need for additional storage facilities.

Natural gasoline continues to hold the strong position it has enjoyed for several months. Only negligible quantities are available on the open market and the very little being offered is at a price not less than 13¾ cents per gallon (without tax).

Lubricating oils continue to move in satisfactory volumes, prices remaining steady. There is practically no irresponsible competition in this field on the Pacific Coast.

The fuel oil and fuel distillate markets are very sluggish. The demand gets weaker while the production is increasing. The result is that large volumes of these oils are being run into storage monthly. There is no relief in sight at present but some hope is held for relief due to increased fuel demand in the East this winter.

The kerosene and cased gasoline trade remains somewhat uncertain. Prices for these commodities have been steady for months.

COASTAL REFINERIES SAY THEY ARE SATISFIED

HOUSTON, Texas, August 17.—Lubs made from Gulf Coast crudes are steady and unchanged, with the exception of 1,200 viscosity, pale, which is quoted at 24½-25 cents, and 750 viscosity red which is quoted at 18½-19 cents.

A cut of 25 cents per bbl. in crude early in the month and the fact that jobbers are slow to contract for the cold weather needs is given by refiners as the reason for the softening. It is thought jobbers are holding off in anticipation of another cut in crude prices. Some contracts for small consignments have been made by jobbers with Coastal refiners and it is expected the large buyers will be in the market next month. Meantime some plants are accumulating stocks of various grades.

Sales managers stress the superior qualities of certain of the grades turned out by their plants and on these are asking fractionally higher articles than the nominal quotations given.

Refiners state they are satisfied with present conditions and are optimistic over the promise for large business during the winter months, when Coastal lubs are in greater demand than during the summer.

Gas oil and fuels are unchanged. The former is quoted at 5 and 5¼ cents and the latter at $1.45 and $1.50. With the completion of natural gas lines to Houston, Galveston and other places, there will be less demand for fuel oil in South Texas. Beaumont will be supplied with natural gas for domestic use by October 1. Industrial plants in various sections of South Texas are now being solicited by the natural gas companies for connections by the first of the year.

PENNSYLVANIA PRODUCTS HAVE VERY SOFT WEEK

OIL CITY, Pa., Aug. 15.—This has been another very soft week for Pennsylvania products. In the Pennsylvania district of refineries there has been little movement of the majority of the list due in part to the reduction in the price of Pennsylvania crude oil.

Gasoline has been very slow and there has been quite a little price cutting while the prevailing prices are also lower than they were a week ago. As is usual when a reduction is made in Pennsylvania crude there was little movement of motor fuel oil from this district.

Kerosene has not shown any improvement in any respect. Fuel oil also is no better. Neutrals and cylinder stocks are weaker than they were. Wax continues in good demand.

NORTH TEXAS MARKET HAD LITTLE BUYING

FORT WORTH, Tex., Aug. 17.—There has been very little buying in the gasoline market in North Texas during the week. Practically no export gasoline was purchased at all, only a few scattered cars. Late in the week United States Motor Oil was quoted at 10¾ to 11 cents with very light buying and prospects for a still further price decline. A price of 10¼ to 10½ cents being quoted on 56-58 450 end point gasoline while 64--66, 375 end point stuff was quoted at 12¾ cents. The market on all grades of gasoline was extremely dull.

There was very little if any strength in the natural gasoline market. The movement is thoroughly in keeping with that of other grades of gasoline and quotations are correspondingly low. All grades of natural gasoline late in the week were quoted at 12¾ to 13 cents.

The heavier products are showing a better market tone. Kerosene has strengthened some with 41-43 water white selling at 4 to 4¼ cents. Refiners are a little reluctant to sell even at this price. The prime white grade is bringing about the same price as the water white grade.

There is a good movement in the gas oil market. Quotations range from 3⅛ to 3¼ cents. The fuel oil market is also showing more strength and is hard to obtain at prevailing prices. Quotations are $1.10 to $1.15 per barrel. Railroads are still rather heavy buyers of fuel and with the fall and winter months not far distant the market is naturally showing more strength.

DRILLLING IN NEW JERSEY

Providence Oil Co. is estimated to have spent $200,000 boring in Ocean County, New Jersey, which has now reached 4,000 feet with no sign of oil. The company has 12,000 acres under lease.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	Aug. 18		Aug. 11		Aug. 4	
OKLAHOMA (Group 3)—						
50-52 450 end point (Naphtha)	.09½	.10	.10½	.10¾	.10¾	.11
56-58 450 end point	.09¾	.10	.10¾	.11	.11	.11¼
58 60 437 end point (U. S. Motor)	.10¼	.10¾	.11¼	.11½	.11½	.11¾
60 62 400 end point	.11¾	.12	.12½	.12¾	.13	.13¼
64-66 375 end point	.12½	.12¾	.13½	.13¾	.14	.14¼
68-70 350 end point	.14	.14¼	.14¾	.15	.15¼	.15½
KANSAS—						
58-60 437 end point (U. S. Motor)	.10½	.10¾	.11½	.11¾	.12	.12¼
NORTH TEXAS—						
48-52 450 end point (Naphtha)	.09½	.09¾	.10½	.10¾	.10¾	.11
50-52 440 end point (Naphtha)	.09½	.10	.10½	.10¾	.10¾	.11
56 58 450 end point	.09¾	.10	.10¾	.11	.11¼	.11½
58 60 437 end point (U. S. Motor)	.10¼	.10½	.11¼	.11½	.11½	.12
60 62 400 end point	.11¾	.12	.12¾	.12½	.13	.13¼
64-66 390 end point	.12⅛	.12¼	.13¼	.13½	.14	.14¼
64 66 375 end point	.12⅜	.12¾	.13½	.....	.14¼	.14½
68-70 360 end point	.13⅞	.14	.14½	.14¾	.15¼	.15½
NORTH LOUISIANA—						
56-58 450 end point	.10½	.10¾	.11⅝	.11⅞	.11½	.11¾
58-60 437 end point (U. S. Motor)	.10¾	.11	.11⅞	.12	.12¼	
60-62 400 end point	.12	.12¼	.13¼	.13½	.13½	.13¼
64 66 390 end point	.12¾	.13	.14¼	.14½	.14½	.14¾
64 66 375 end point	.14¼	.14½	.14½	.14¾	.15½	.15¾
ARKANSAS—						
58-60 450 end point	.10¾	.11	.11¼	.11½	.12	.12¼
58 60 437 end point (U. S. Motor)	.11	.11¼	.11½	.11⅝	.12¼	.12½
64 66 375 end point	.13½	.13¾	.14	.14¼	.14½	.14⅝
ROCKY MOUNTAIN STATES—						
*58 60 437 end point (U. S. Motor)	.13¼	.13½	.14¼	.14½	.15	.15¼
PENNSYLVANIA—						
52 Naphtha	.13¼	.13½	.14¼	.14½	.14½	.14¾
54 Naphtha	.13¾	.14	.14¼	.14½	.13¾	.15
56 Naphtha	.13¾	.14	.14½	.14¾	.15	.15⅛
58 Naphtha	.14	.14¼	.14½	.14¾	.15¼	.15½
60 Gasoline	.15¼	.15½	.15¼	.15½	.16	.16¼
62 Gasoline	.16½	.16¾	.16½	.16¾	.16½	.16¾
64 Gasoline	.17¼	.17½	.17¼	.17½	.17¼	.17½
66 Gasoline	.17¼	.17½	.17¼	.17½	.17¼	.17½
68-70 Gasoline	.20	.20¼	.20	.20¼	.20	.20¼
CALIFORNIA—						
54-58 437 end point (U. S. Motor) domestic	.11	.11½	.11	.11½	.11	.11½
CHICAGO DIST. (Based on Group 3)—						
50-52 450 end point (Naptha)	.09¾	.10	.10½	.10¾	.11¼	.11½
56-58 450 end point	.09¾	.10	.10¾	.11	.11½	
58 60 437 end point (U. S. Motor)	.10¼	.10½	.11¼	.11½	.12	
60 62 400 end point	.11¾	.12	.12⅝	.12⅞	.13¼	.13½
64-66 375 end point	.12¾	.13	.13¾	.14	.14½	.14¾
68-70 360 end point	.14	.14¼	.14¾	.15	.15¼	.15½

NATURAL GASOLINE

	Aug. 18		Aug. 11		Aug. 4	
OKLAHOMA (Group 3)—						
Grade Double A, 80-87.9.375 e. p. rec. 90%	.12½	.12¾	.13	.13¼	.13½	.13¾
Grade A, 72-79 9, 375 end point, rec. 90%	.12½	.13¾	.13	.13¼	.13½	.13¾
Grade Double B, 84-92, 375 e.p., rec. 85%	.12¼	.12½	.13	.13¼	.13½	.13¾
Grade B, 76 83.9, 375 end point, rec. 85%	.12¼	.12½	.13	.13¼	.13½	.13¾
Grade C, 80 90, 375 end point, rec. 78%..	.12¼		.13	.13¼	.13½.	.13¾
NORTH TEXAS—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.12½.	.12¾	.13¼		.13¾	
Grade A, 72-79.9, 375 end point, rec. 90%	.12½	.12¾	.13¼		.13¾	
Grade Double B, 84-92, 375 e.p., rec. 85%	.12½	.12¾	.13¼		.13¾	
Grade B. 76 83.9 375 end point, rec. 85%	.12¼	.12¾	.13¼		.13¾	
Grade C, 80 90, 375 end point, rec. 78%..	.12½		.13¼		.13¾	
NORTH LOUISIANA—						
Grade A, 72 79.9, 375 end point, rec. 90%..	.13¼	.13½	.13¾	.14	.14¼	.14½
Grade B, 76 83.9. 375 end point, rec. 85%..	.13¼	13½	.13¾	.14	.14¼	.14½
Grade C, 80-90 375 end point, rec. 78%...	.13¼	.13½	.13¾	.14	.14¼	.14½
CALIFORNIA—						
78-85 absorption, 360-390 end point	.13¼	.13¾	.13¼	.13¾	.13¼	.13¾
78-84 compression 350 end point	.13½		.13½		.13½	
CHICAGO DIST. (Based on Group 3)—						
Grade Double A. 80 87.9, 375 e. p. rec. 96%	.12¾	.13	.13¼	.13½	.13¾	.14
Grade A, 72-79 9, 375 end point, rec. 90%	.12¾	.13	.13¼	.13½	.13¾	.14
Grade Double B, 84-92, 375 e.p., rec. 85%	.12½		.13¼	.13½	.13¾	.14
Grade B, 76 83 9. 375 end point, rec. 85 %	.12½		.13¼	.13½	.13¾	.14
Grade C, 80-90, 375 end point, rec. 78%..	.12¼	.12½	.13¼		.13¾	.14

MOTOR NATURAL GASOLINE (BLENDS)

	Aug. 18		Aug. 11		Aug. 4	
OKLAHOMA (Group 3)—						
60-62 450 end point	.10¼	.10½	.11½	.11¾	.12	.12¼
68-70 430 437 end point	.10½		.12	.12¼	.12¾	.13
NORTH TEXAS—						
58-60 450 end point	.10¼	.10½	.11¼	.11½	.12	.12¼
PENNSYLVANIA—						
*60-62	.15¼.	.15½	.15½	.15¾	.15¾	
*64 66	.15¼	.15½	.15½	.15¾	.15¾	
*66 68	.15¼	.15½	.15½	.15¾	.15¾	
*68 70	.15¼	.15½	.15½	.15¾	.15¾	
CHICAGO DIST. (Based on Group 3)—						
60-62 450 end point	.11	.11¼	.12	.12¼	.12	.12½
68-70 437 end point	.11½	.11¾	.12⅜	.13	.12¾	.13

*At Sistersville, W. Va.

BURNING OIL

	Aug. 18		Aug. 11		Aug. 4	
KANSAS—						
41-43 water white Kerosene	.04½	.04¾	.04½	.04¾	.04¼	.04½
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04⅛	.04¼	.04	.04⅛	.04	.04¼
42-44 water white Kerosene	.04½	.04¾	.04½	.04⅝	.04¼	.04½
40-41 prime white Kerosene	.04	.04⅛	.03⅞	.04	.03¾	.03⅞
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04¾	.05	.04¾	.05	.04½	.04¾
42 44 water white Kerosene	.05¼		.05	.05¼	.04¾	.05
ROCKY MOUNTAIN STATES—						
*40 42 water white Kerosene	.07⅛	.07¼	.07	.07⅛	.07	.07⅛
NORTH TEXAS—						
41-43 water white Kerosene	.04	.04⅛	.03⅞	.04	.03⅞	.04
40-42 prime white Kerosene	.03¾	.04	.03¾	.04	.03¾.	.04
41-43 prime white Kerosene	.03⅞	.04	.03¾	.04	.03¾	.04
42-44 water white Kerosene	.04⅜	.04⅝	.04¼	.04½	.04⅛	.04¼
ARKANSAS—						
41-43 water white Kerosene	.04¾	.05	.04¼	.04½	.04½	.04¾
42-44 water white Kerosene	.05	.05¼	.04½	.04¾	.04¾	.05
PENNSYLVANIA—						
53 Kerosene prime white	.06	.06¼	.06	.06¼	.06	.06¼
45 Kerosene water white	.06¼	.06½	.06¼	.06½	.06¼	.06½
46 Kerosene water white	.06½	.06¾	.06½	.06¾	.06½	.06¾
47 Kerosene water white	.06¾	.07	.06¾	.07	.06¾	.07
34 Neutral	.07	.07¼	.07	.07¼	.07	.07¼
34 Sundebloomed Neutral	.08½	.09	.08½	.09	.08½	.09
36 Miners' Neutral	.06¾	.07	.06¾	.07	.06¾	.07
300 Mineral Seal	.07	.07½	.07¼	.07½	.07¼	.07½
CALIFORNIA—						
40-42 water white (high burning test)	.07½	.08	.07½	.08	.07½	.08
Engine distillate, 43-45 445 end point	.08½	.09	.08½	.09	.08½	.09
Engine distillate, 42-44 480 end point	.07¾	.08	.07¾	.08	.07¾	.08
CHICAGO DIST. (Based on Group 3)—						
41-42 water white Kerosene	.04¼	.04⅜	.04⅛	.04⅜	.04	.04¼
42-44 water white Kerosene	.04⅝	.04¾	.04⅜	.04⅝	.04⅜	.04⅝

*Colorado points.

FUEL OILS

	Aug. 18		Aug. 11		Aug. 4	
KANSAS—						
24-26 Fuel Oil	1.12½	1.15	1.15		1.10	1.12½
32-36 Gas Oil	.03⅜	.03⅝	.03⅜	.03⅝	.03¼	.03½
38-40 Distillate	.03¾	.03¾			.03½	.03⅝
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers' cars)	1.02½	1.05	1.05	1.07½	1.00	1.05
22-26 Fuel Oil (sellers' cars)	1.05		1.05	1.10	1.05	
24 26 Fuel Oil (buyers' cars)	1.05	1.10	1.07½	1.10	1.07½	1.10
24-26 Fuel Oil (sellers' cars)	1.05	1.10	1.07½	1.10	1.07½	1.10
28 30 Fuel Oil (sellers cars)	1.12½	1.15	1.15		1.12½	1.15
32-26 Gas Oil	.03⅛		.03¼	.03⅜	.03⅜	.03¼
36-38 Distillate	.03⅜	.03½	.03⅜	.03½	.03⅜	.03½
38-40 Straw Distillate	.03⅝	.03¾	.03⅝	.03¾	.03½	.03⅝
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	1.10		1.10	1.12½	1.10	
26 30 Fuel Oil	1.12½	1.15	1.15		1.10	1.15
32-36 Gas Oil	.03	.03¼	.03¼	.03⅜	.03¼	.03¼
38 40 Straw Distillate	.03½	.03¾	.03½	.03¾	.03½	.03⅝
NORTH LOUISIANA—						
18-20 Fuel Oil	1.05		1.05	1.10	1.05	
32-36 Gas Oil	.03½	.03¾	.03½		.03¼	.03½
ARKANSAS—						
38-40 Distillate	.03⅝		.03¾	.04	.03¾	
32-36 Gas Oil	.03½		.03⅝	.03¾	.03⅜	.03½
22-26 Refinery Fuel Oil	1.05	1.10	1.10		1.00	1.05
GULF COAST (South Texas)—						
Gas Oil	.05	.05¾	.05	.05¾	.05	.05¾
Fuel Oil	1.45	1.50	1.45	1.50	1.50	1.55
PENNSYLVANIA—						
30-34 Fuel Oil	.05½	.05¾	.05½	.05¾	.05½	.05¾
36 40 Fuel Oil	.06	.06¼	.06	.06¼	.06	.06¼
CALIFORNIA—						
33-36 Distillate	.04¾	.05	.04¾	.05	.04¾	.05
27-33 Distillate	.04	.04½	.04	.04½	.04	.04½
15-20 Fuel Oil (at tidewater)	1.50	1.55	1.50	1.55	1.50	1.55
27 plus Diesel Oil	1.75	1.80	1.75	1.80	1.75	1.80
CHICAGO DIST. (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars, Group 3)	1.07½	1.12½	1.07½	1.12½	1.00	1.05
18-22 (El Dorado	1.05	1.10	1.05	1.10	.97½	1.00
18-20 (Smackover)	1.02½	1.05	1.05	1.10	1.00	1.05
32-36 Gas Oil	.03¼	.03⅜	.03¼	.03⅜	.03⅛	.03¼
36 38 Distillate	.03½	.03⅝	.03⅜	.03⅝	.03⅜	.03½
38-40 Straw Distillate	.03⅝	.03¾	.03⅝	.03⅞	.03½	.03⅝

LUBRICATING OILS AND WAX

	Aug. 18		Aug. 11		Aug. 4	
OKLAHOMA (Group 3)—						
79 80 vis., 2½ color, 20-25 cold test	.05¼	.05½	.05¼	.05½	.05¼	.05½
100 vis., 3 color, 20-25 cold test	.05¾	.06	.05¾	.06	.06	.06¼
100 vis., 2 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06	.06¼
150 vis., 3 color, 20-25 cold test	.10½	.11	.10½	.11	.10½	.11
150 vis., 4 color, 20-25 cold test	.10¼	.10¾	.10¼	.10¾	.10¼	.10¾
180 vis., 4 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11
180 vis., 3 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
200 vis., 3 color, 23-28 cold test	.12	.12½	.12	.12½	.12	.12½
200 vis., 4 color, 23-28 cold test	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
220 vis., 3 color, 25-20 cold test	.14½	.15	.14½	.15	.14½	.15
220 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.16	.16½	.16	.16½	.16	.16½
240 vis., 4 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 3 color, 25-30 cold test	.17½	.18	.17½	.18	.17½	.18
280 vis., 4 color, 25-30 cold test	.16½	17	.16½	.17	.16½	.17
Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
180 vis., 6 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
200 vis., 5 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
200 vis., 6 color, 23-28 cold test	.11	11½	.11	.11½	.11	.11½
220 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
220 vis., 6 color, 25-30 cold test	.13	.13½	.13	.13½	.13	.13½
240 vis., 5 color, 25-20 cold test	.15	.15½	.15	.15½	.15	.15½
240 vis., 6 color, 25-30 cold test	.14½	.15	.14½	.15	.15½	.15

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

280 vis., 5 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	16
Cylinder Stocks—						
180-200 vis., S. R. green, 40-45 cold test	.09	.09½	.09	.09½	.09	.09½
190-200 vis., S. R. green, 40-45 cold test	.08	.08½	.08	.08½	.08	.08½
170-190 dark green, 40-45 cold test	.06½	.07	.06½	.07	.06½	.07
190-200 vis., @ 210 "D" Bright Stock	.36		.36		.36	
200-210 vis. @ 210 "E" Bright Stock	.31		.31		.31	
150 vis. @ 210 "D" Bright Stock	.32		.32		.32	
150 vis. @ 210 "E" Bright Stock	.28		.28		.28	
Waxes—						
124-126 White Crude Scale Wax	.05¼	.05½	.05	.05½	.05	.05½
PENNSYLVANIA—						
150, 3 color	.19¾		.19¾		.19¾	
180, 3 color	.22½		.22½		.22½	
200, 3 color	.23½		.24½		.24½	
220, 3 color	.26½		.26½		.26½	
600, steam refined	.16		.17		.19½	
635, steam refined	.20		.21½		.23	
650, steam refined	.21½		.23		.24½	
600, Pennsylvania flash	.26		.27½		.29	
630, Pennsylvania flash	.38		.38		.38	
*550, E filtered	.21		.21		.22	
*600, E filtered	.23		.23		.23½	
660, E filtered	.22		.23		.23	
600, D filtered	.29		.29		.29	
550, E filtered	.21½		.21½		.21½	
550, D filtered	.25		.25		.25	
Pensylvania Bright Stock	.39		.39		.39	
122-124 White Crude Scale Wax	.05½		.05½		.05½	
†124-126 White Crude Scale Wax	.05⅝		.05⅝		.05⅝	

*At Warren, P. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.07½	.08	.07½	.08	.09½	.10½
No. 2 color, 150 vis., pale oil	.10	.11	.10	.11	.11	.12
No. 3 color, 200 vis., pale oil	.12	.12½	.12	.12½	.13½	.14
No. 3 color, 300 vis., pale oil	.14	.14½	.14	.14½	.15½	.16
No. 3½ color, 500 vis., pale oil	.16	.16½	.16	.16½	.17	.17½
No. 3½ color, 750 vis., pale oil	.18½	.19	.21½	.22	.23½	.24½
No. 4½ color, 1200 vis., pale oil	.24½	.25	.25½	.26	.26½	.27½
No. 4 color, 2000 vis., pale oil	.29	.30	.29	.30	.30	.31
No. 2 plus color, 150 vis., pale filtered	.21½		.21½		.22½	
No. 2 plus color, 200 vis., pale filtered	.23		.23		.24	
No. 2½ minus color, 300 vis., pale filtered	.26½		.26½		.27½	
No. 2½ color, 500 vis., pale filtered	.30½		.30½		.31½	
No. 2½ color, 800 vis., filtered	.40½		.40½		.41½	
No. 5 to 6 color, 200 vis., red oil	.10½	.11	.10½	.11	.11½	.12
No. 5 to 6 color, 300 vis., red oil	.12½	.13	.12½	.13	.13½	.14
No. 5 to 6 color, 500 vis., red oil	.14½	.15	.14½	.15	.15	.15½
No. 5 to 6 color, 750 vis., red oil	.19½	.20	.19½	.20	.20	.20½
CALIFORNIA—						
130 pale, 2½-3 color	.12	.12½	.12	.12½	.12	.12½
200 vis., 2½-3 color	.15½	.16	.15½	.16	.15½	.16
300 vis., 3 -3½ color	.17	.17½	.17	.17½	.17	.17½
350 vis., 3½-4 color	.18½	.19	.18½	.19	.18½	.19
400 vis., 3½-4 color	.20	.20½	.20	.20½	.20	.20½
Red Neutrals:						
200 vis., 4½-5 color	.14	.14½	.14	.14½	.14	.14½
300 vis., 5 -6 color	.15	.15½	.15	.15½	.15	.15½
400 vis., 5 -6 color	.17	.17½	.17	.17½	.17	.17½
500 vis., 4½-5 color	.20	.21	.20	.21	.20	.21
500 vis., 6 -6½ color	.18	.19	.18	.19	.18	.19
600 vis., 6½ plus color	.19	.19½	.19	.19½	.19	.19½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK DOMESTIC MARKET

Bayonne Refinery Prices:	Aug. 18	Aug. 11	Aug. 4
U. S. Motor Gasoline, 58-60 437	.15½	.16½	.16½
*Bunker Oil, 14-16 Be.	1.65	1.65	1.75
Diesel Oil, New York City	2.10	2.10	2.30
Furnace Oil, New York City	.10	.10	.10
Gas Oil, 32-36 Be	.06¼	.06¼	.06¾
41-43 Kerosene prime white	.06⅛	.06⅛	.06¼

*Lighterage, 6.5c a barrel extra.

NEW YORK EXPORT PRICES

Motor Gasoline:	Aug. 18	Aug. 11	Aug. 4
58-60 Be. gravity, in cases	.29.65	.29.65	.30.65
U. S. Navy, in bulk	.15½	.15½	.16½
Naptha:			
60° F., 50 61 Be. gravity, in bulk	.17¾	.19¼	.19¼
60° F., 62 63 Be. gravity, in bulk	.19	.20½	.20½
60° F., 66 68 Be. gravity, in bulk	.20½	.22	.22
Kerosene:			
Standard white, 40-42 Be. grav., in bulk	.06	.06	.06
Standard white, 40-42 Be. grav., in barrels	.13	.13	.13
Standard white, 40 42 Be. grav., in cases	.16.4	.16.4	.16.4
Water white, 42-44 Be. grav., in bulk	.07	.07	.07
Water white, 42-44 Be. grav., in barrels	.14	.14	.14
Water white, 42-44 Be. grav., in cases	.17.4	.17.4	.17.4
†Lubricating Oils (in bulk):			
Cylinder Stock, extra filtered, 600, barrels	.35	.36	.36
Cylinder Stock, light filtered, 600, barrels	.30	.31	.31
No. 1 white Neutral, .878 spec. grav.	.36	.36	.36
No. 5 Bright Stock, .897 spec. grav.	.40	.40	.40
Spec'l "A" red oil, .897 spec grav., 170 vis.	.12	.12	.12
No. 2 red oil, .903 spec. grav., .212 vis.	.13	.13	.13
No. 1 red oil, 905 spec. grav., 265 vis.	.14	.14	.14
Polar red oil, .903 spec. grav., 295 vis.	.15	.15	.15
Pale oil, "25" .899 spec. grav.	.13½	.13½	.13½
Pale oil, "28' spec. grav.	.09	.09	.09
Paraffin Wax:			
120-122 a. m. p., per lb.	.06¼	.06¼	.06¼
125-127 a. m. p., per lb.	.06¾	.06¼	.06¼
130 132 a. m. p., per lb.	.06⅝	.06⅝	.06⅝
135-137 a. m. p., per lb.	.07½	.07½	.07½
Petrolatum, in bbls., carload lots, per lb.:			
Amber	.03	.03¼	.03¼
Light amber	.03¾	.03¾	.03¾
Cream	.06	.06	.06

†All lub prices in barrels.

LOS ANGELES EXPORT PRICES

	Aug. 18		Aug. 11		Aug. 4	
Kerosene water white	.05½	.06	.05½	.06	.05½	.06
U. S. Motor Gasoline, 54-56 437 end point	.10¾	.11½	.10¾	.11½	.10¾	.11½

CRUDE OIL PRICES

Arkansas and North Louisiana

Caddo, 38° and above	$2.20
35° to 37.9°	2.10
32° to 34.9°	2.00
Below 32°	1.85
Homer, 35° and above	1.95
32° to 34.9°	1.85
31° to 32.9°	1.75
Below 31°	1.60
Haynesville, 33° and above	1.85
Below 33°	1.75
El Dorado, 33° and above	1.85
Below 33°	1.75
Bull Bayou, 38° and above	2.00
35° to 37.9°	1.85
32° to 34.9°	1.70
Cotton Valley	1.10
De Soto	2.05
Crichton	1.85
Bellevue	1.65
*Stephens, Ark.:	
Below 26°	1.35
26° and above	1.55

*Posted by Atlantic Oil Producing Co.

Smackover:	
(Standard Oil Co. of Louisiana)	
Below 24°	.85
24° to 24.9°	1.15
25° to 25.9°	1.25
26° to 26.9°	1.30
27° and above	1.35
(Posted by The Texas Co.)	
Below 24°	.85
24° to 25.9	1.05
26° and above	1.35
(Atlantic Oil Producing Co.)	
Below 23°	.90
23° to 23.9°	.95

Wyoming and Montana

Rock Creek (Wyo.)	2.00
Salt Creek:	
29° to 29.9°	1.48
30° to 30.9	1.56
31° to 31.9°	1.64
32° to 32.9°	1.72
33° to 33.9°	1.80
34° to 34.9°	1.88
35° to 35.9°	1.96
36° to 36.9°	2.04
37° and above	2.12
Big Muddy	2.00
Mule Creek	1.50
Grass Creek (light)	2.15
Elk Basin	2.15
Lance Creek	2.15
Osage	2.15
Cat Creek (Mont.)	2.15
Sunburst (Mont.)	1.55
Lost Soldier	1.35
Greybull and Torchlight	2.00
Hamilton Dome	1.60
Hogback, N. Mex.	2.20
Artesia (N. Mex.)	1.70

Lost Soldier and Lander based on contracts.

Oklahoma, Kansas, North and East Central Texas

Prairie Oil & Gas Co. and other major purchasing companies, except as noted:

28° to 28.9°	1.40
29° to 29.9°	1.48
30° to 30.9°	1.56
31° to 31.9°	1.64
32° to 32.9°	1.72
33° to 33.9°	1.80
34° to 34.9°	1.88
35° to 35.9°	1.96
36° to 36.9°	2.04
37° to 37.9°	2.12
38° to 38.9°	2.20
39° to 39.9°	2.28
40° to 40.9°	2.36
41° to 41.9°	2.44
42° to 42.9°	2.52
43° to 43.9°	2.60
44° to 44.9°	2.68

Humble Oil & Refining Co.

(North Texas, Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran)	
28° to 28.9°	1.35
29° to 29.9°	1.41
30° to 30.9°	1.47
31° to 31.9°	1.53
32° to 32.9°	1.59
33° to 33.9°	1.65
34° to 34.9°	1.71
35° to 35.9°	1.77
36° to 36.9°	1.83
37° to 37.9°	1.89
38° to 38.9°	1.95
39° to 39.9°	2.01
40° to 40.9°	2.07
41° to 41.9°	2.13
42° to 42.9°	2.19
43° to 43.9°	2.25
44° and above	2.31
Magnolia Petroleum Co.—	
Below 28°	1.00
28° to 30.9°	1.35
Gypsy Oil Co.—	
Bristow, Glenn Pool, Morris and Perryman:	
25° to 25.9°	1.16
26° to 26.9°	1.24
27° to 27.9°	1.32

California

14° to 19.9°	1.25
20° to 20.9°	1.27
21° to 21.9°	1.30
22° to 22.9°	1.33
23° to 23.9°	1.36
24° to 24.9°	1.40
25° to 25.9°	1.44
26° to 26.9°	1.48
27° to 27.9°	1.52
28° to 28.9°	1.56
29° to 29.9°	1.60
30° to 30.9°	1.64
31° to 31.9°	1.68
32° to 32.9°	1.72
33° to 33.9°	1.76
34° to 34.9°	1.80
35° and above	1.85
Rosecrans-Athens Field only:	
Below 35.9° gravity, same as other fields.	
36° to 36.9°	1.92
37° to 37.9°	2.00
38° to 38.9°	2.08
39° to 39.9°	2.16
40° to 40.9°	2.24
41° to 41.9°	2.32
42° and above	2.40

Gulf Coast

Grade A	1.50
Grade B	1.25
Luling (Magnolia)	1.40
Laredo (Magnolia Petroleum Co.)	.85
Lockhart (Magnolia)	2.25
Rockdale-Minerva (Milam County)	1.25
Callihan (Live Oak-McMullen)	2.05
Webb, Jim Hogg, Zapata	1.15
*High Island	1.20

*Posted by Sun Oil Co.

*Somerset	
Below 30°	1.25
30° to 32.9°	1.35
33° to 35.9°	1.80
36° to 38.9°	1.95
39° to 41.9°	2.10
42° and above	2.35

*Posted by Grayburg Oil Co.

Eastern States	
Penna Grade Oil in New York Transit Lines	3.40
Bradford District Oil in National Transit Lines	3.40
Penna Grade Oil in National Tran-	

(Continued on Page 150)

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Aug. 18.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)
Main Service Station Price

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
Chicago Dist.—				
†Less than 100 gals.	19.0	21.0	..	12.0

Tank wagon prices on April 15, 1922; g. up 1½ c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c; k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 20, g. up 2c; Jan. 12, 1924, g. up 2c; k. up 1c; Feb. 5, g. up 2c; k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c; k. up 1c; April 19, g. down 1c; July 14, g. up 1c.

Decatur, Ill.	13.0	15.0	..	12.5
East St. Louis	18.1	20.35	..	11.6
Joliet	19.4	21.4	..	12.7
Peoria	14.0	16.0	..	12.5
Quincy	19.2	21.2	..	12.3
Davenport, Ia.	21.5	23.5	2.0	12.9
Des Moines	19.5	21.5	2.0	12.9
Keokuk	21.5	23.5	2.0	12.9
Sioux City	21.0	23.0	2.0	12.5
Duluth, Minn.	22.5	24.5	2.0	13.6
Minneapolis	22.2	24.2	2.0	13.6
La Crosse, Wis.	22.2	24.2	2.0	13.4
Milwaukee	21.1	23.1	2.0	12.3
Madison	21.3	23.3	2.0	12.5
Detroit, Mich.	21.8	23.8	2.0	13.2
Grand Rapids	21.7	23.7	2.0	13.1
Saginaw	21.9	23.9	2.0	13.3
Evansville, Ind.	22.0	24.0	3.0	12.5
Fort Wayne	22.4	24.4	3.0	12.9
Indianapolis	22.2	24.2	3.0	12.7
South Bend	22.4	24.4	3.0	12.9
Fargo, N. D.	21.9	23.9	4.0	15.6
Huron, S. D.	20.0	22.0	3.0	14.1
Sioux Falls	21.5	23.5	3.0	13.6
*Kansas City Mo	21.9	23.9	3.0	11.3
*Springfield	21.8	23.8	3.0	12.2
*St. Louis	20.6	22.9	2.5	12.0
*St. Joseph	21.0	23.0	2.5	11.9
Wichita Kans	20.8	22.8	2.0	11.8
Bartlesville Okla	20.9	22.9	3.0	10.9

*State tax is 2c. Remainder is city tax. †Quantity price on more than 100 gallons, 18.0.

The following monthly rebate system is effective on tank wagon schedules throughout the territory of the Standard Oil Co. of Indiana: Over 750 gallons, ½ cent; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 6,000 gallons, 1½ cents; over 10,000 gallons, 2 cents. If quantity bought during the year is equal to 12 times the monthly agreed purchases the discount will be paid or credited on the entire quantity less monthly payments. Service station customers will receive discount of 1 cent a gallon on purchases amounting to 200 gallons a month or 3,600 gallons a year; and 2 cents a gallon on 600 gallons a month or 7,200 gallons a year.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
Newark, N. J.	17.0	19.0	..	12.5
Atlantic City	17.0	...	..	12.5
Annapolis, Md.	20.0	...	2.0	12.0
Baltimore	19.0	21.0	2.0	11.0
Cumberland	20.0	22.0	2.0	12.0
Wasnington, D. C.	18.0	21.0	2.0	12.0
Norfolk, Va.	21.0	23.0	3.0	13.0
Petersburg	21.0	...	3.0	13.0
Danville	21.0	...	3.0	13.0
Richmond	21.0	23.0	3.0	13.0
Roanoke	21.0	23.0	3.0	13.0
Keyser, W. Va.	21.5	...	3.5	13.0
Charleston	20.5	22.0	3.5	13.0
Parkersburg	20.5	21.0	3.5	13.0
Wheeling	20.5	21.0	3.5	13.0
Charlotte, N. C.	22.0	24.0	4.0	14.0
Hickory	22.0	...	4.0	14.0
Mt. Airy	22.0	...	4.0	14.0
Salisbury	22.0	...	4.0	14.0
Charleston, S. C.	23.5	25.5	5.0	14.5
Columbia	23.5	26.5	5.0	14.5

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
Atlanta, Ga.	24.0	27.0	3.0	13.0
Augusta	24.0	27.0	3.0	15.0
Macon	24.0	27.0	3.0	13.5
Savannah	22.0	25.0	3.0	13.0
Birmingham Ala	22.0	25.0	2.0	14.5
Mobile	21.0	24.0	2.0	11.0
*Montgomery	23.0	26.0	3.0	15.5
Clarkedale, Miss.	22.0	25.0	3.0	12.5
Jackson	22.0	25.0	3.0	9.0
Natchez	21.5	24.5	3.0	11.5
Vicksburg	21.5	24.5	3.0	11.5
Jacksonville, Fla.	23.0	26.0	4.0	13.0
Miami	25.0	28.0	4.0	14.5
Pensacola	23.0	26.0	4.0	13.5
Tampa	23.0	26.0	4.0	13.0
Lexington, Ky.	18.0	21.0	3.0	14.0
Covington	21.0	24.0	3.0	14.0
Louisville	22.0	25.0	3.0	12.0

*In addition to the State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
*Pittsburgh, Pa.	19.0	24.0	..	14.0
*Philadelphia	19.0	24.0	..	14.0
*Scranton	19.0	24.0	..	14.0
*Allentown	19.0	24.0	..	14.0
Altoona	19.0	24.0	..	14.0
*Erie	19.0	24.0	..	14.0
Dovel, Del.	21.0	24.0	2.0	14.0
Wilmington	21.0	24.0	2.0	14.0
Springfield, Mass.	20.0	22.0	..	13.0
Worcester, Mass.	20.0	24.0	..	13.0
Boston	20.0	24.0	..	13.0
Providence, R. I.	21.0	25.0	1.0	13.0
Hartford, Conn.	22.0	26.0	2.0	12.0
New Haven, Conn.	22.0	26.0	2.0	13.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
Dallas, Tex.	19.0	23.0	1.0	12.0
Fort Worth	16.0	18.0	1.0	10.0
Houston	19.0	23.0	1.0	12.0
San Antonio	19.0	22.0	1.0	12.0
El Paso	20.0	22.0	1.0	13.0
Muskogee, Okla.	19.0	22.0	3.0	11.0
Oklahoma City	18.6	21.6	3.0	11.0
Tulsa	19.0	22.0	3.0	11.0
Ft. Smith, Ark.	20.0	24.0	1.0	12.0
Little Rock,	19.5	22.5	4.0	12.0
Texarkana	19.5	22.5	4.0	12.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
Casper, Wyo.	22.5	24.5	2.5	13.0
Cheyenne	24.0	26.0	2.5	14.5
Albuquerque, N. Mex.	26.5	29.5	3.0	16.5
Salt Lake, Utah	25.0	27.0	3.5	18.0
Denver, Colo	22.0	24.0	2.0	14.5
Pueblo	22.0	24.0	2.0	14.5
Butte, Mont.	24.0	24.0	2.0	16.0
Helena	26.0	28.0	2.0	17.0
Boise, Idaho	24.5	26.5	3.0	20.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
Albany, N. Y.	20.0	...	..	13.0
*New York	20.0	...	..	13.0
Buffalo	20.0	...	..	12.0
Rochester	20.0	...	..	12.0
Syracuse	20.0	...	..	12.0
Boston, Mass.	18.0	...	..	...
Providence, R. I.	18.0	...	..	...
Augusta, Me.	21.0	...	3.0	13.0
Manchester, N. H.	20.0	...	2.0	13.0
Burlington, Vt.	20.0	...	2.0	13.0

*Price in steel barrels.

Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
*New Orleans	13.5	16.5	3.0	10.0
Alexandria	16.5	18.5	2.0	11.0
Baton Rouge	16.0	19.0	2.0	9.8
LaFayette	17.0	20.0	2.0	10.5
Lake Charles	17.5	20.5	2.0	11.0
Shreveport	16.5	19.5	2.0	11.0
Memphis, Tenn.	20.0	23.0	3.0	12.0
Chattanooga	19.5	22.5	3.0	13.0
Knoxville	20.5	23.5	3.0	13.0
Nashville	19.5	22.5	3.0	12.5
Bristol	19.0	19.0	3.0	12.5
Little Rock, Ark.	20.0	23.0	4.0	10.0

*Tax of 3 cents includes city tax of 1 cent.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
San Francisco	17.0	20.0	2.0	15.5
Los Angeles	15.5	18.5	2.0	15.5
Fresno	17.5	20.5	2.0	19.5
Reno, Nev.	22.5	25.5	4.0	19.0
Portland, Ore.	18.0	21.0	2.0	16.5
Stattle, Wash.	17.0	20.0	2.0	16.5
Tacoma	17.0	20.0	2.0	16.5
Spokane	21.0	24.0	2.0	20.5
Phoenix, Ariz.	23.0	26.0	3.0	21.5

OHIO

Standard Oil Co. (Ohio)

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
All Ohio points	20.5	22.5	2.0	13.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline Tank wagon	Service station	Inclds tax of	Kero. Tank wagon
Omaha	21.25	19.5	2.0	12.5
Crawford	22.0	..	2.0	13.25
McCook	22.75	24.75	2.0	14.0
Norfolk	21.75	23.75	2.0	13.0
North Platte	22.75	24.75	2.0	13.75
Scotts Bluff	22.25	24.25	2.0	13.25

TANK WAGON PRICE CHANGES

August 8.—Standard Oil Co. of Indiana reduced tank wagon and service station prices of gasoline at Huron, S. D., 1½ cents a gallon.

August 13.—Standard Oil Co. of Louisiana reduced tank wagon and service stations prices of gasoline from ½ to 3 cents throughout its territory.

August 14.—Standard Oil Co. of New Jersey reduced tank wagon and service station prices of gasoline 1 cent throughout its territory. Magnolia Petroleum Co. reduced tank wagon and service station prices of gasoline 3½ cents at Fort Smith, Ark., and the tank wagon price 2½ cents and the service station price 1½ cents at Little Rock.

August 15.—Standard Oil Co. of Nebraska reduced the service station price of gasoline at Omaha 2 cents.

August 17.—Atlantic Refining Co. reduced tank wagon and service station prices of gasoline in Pennsylvania and Delaware 1 cent. Standard Oil Co. of New York reduced tank wagon and service station prices of gasoline 2 cents in New England.

CRUDE PRICE CHANGES

August 15.—Humble Oil & Refining Co. reduced the price of North Texas, Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran crudes from 5 to 37 cents on all grades. Champlin Refining Co. reduced the price of Garber crude an average of 10 cents. Champlin Refining Co. eliminated its three highest gravity classifications for Garber, including them under one grade, 44 and above. This is a reduction of 8 cents for the 45 to 45.9 gravity; 16 cents for the 46 to 46.9 gravity, and 24 cents for crude of 47 degrees and above.

August 17.—Joseph Seep Purchasing Agency reduced the price of all Pennsylvania crude 25 cents a barrel; Cabell, Somerset medium and Somerset light, 15 cents, and Ragland, 10 cents. Paragon Development Co. reduced the price of Barren, Cumberland and Monroe County, Kentucky, crudes 25 cents.

August 18—Magnolia Petroleum Co. reduced the price of North and Central Texas crude from 11 to 37 cents on all grades above 31 degrees, following the schedule adopted by the Humble Oil & Refining Co. on August 15. The two lower grades, below 28 and 28 to 30.9, were unchanged. Joseph Seep Purchasing Agency reduced the price of Pennsylvania grade oil in Buckeye pipe lines, 25 cents a barrel.

CRUDE OIL PRICES

(Continued from Page 149)

sit Lines	3.30
Penna Grade Oil in Southwest Pa. Pipe Lines	3.30
Penna Grade Oil in Eureka Pipe Line Lines	3.25
Penna Grade Oil in Buckeye Pipe Lines	3.00
Cabell Grade Oil in Eureka Pipe Line Lines	2.20
Corning Grade Oil in Buckeye Pipe Line Lines	2.05
Somerset Medium Oil in Cumberland Line Lines	2.30
Somerset Light Oil in Cumberland Pipe Line Lines	2.45
Ragland Grade Oil in Cumberland Pipe Line Lines	1.20
Gaines	2.95
Lima	2.33
Wooster	2.35
Illinois	2.12
Indiana	2.13
Princeton	2.12
Plymouth	1.65
Waterloo	1.10
Oil Springs, Canada	2.80
Petrolia, Canada	2.73
*Western Kentucky, 36° and above	2.15
*Western Kentucky, 35° to 35.9°	2.05
*Western Kentucky 32.9° and below	1.95
Cumberland, Barren and Monroe Counties (Kentucky), (Paragon Development Co.)	2.35

*Prices for Warren, Allen, Hancock Simpson and Ohio Counties by Indian Refining Co.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	1.45
†Panuco (f.o.b. Mexican ports	1.25
Tuxpam (New York)	2.00
Panuco (New York)	1.67

*Plus 33.00c tax. †20.00c tax.

GOOD GASSER NEAR FAMOUS KEELER WELL

KANE, Pa., Aug. 13.—A gas well which starts with a production of 3,000,000 feet daily was struck today on the Pennsylvania Gas Co.'s lease of the Wellomre Road, 3 miles from here. The well is within 2 miles of the famous Keeler well, struck in 1906, which was the greatest gas well the world had known up to that time. It is not producing now and has been abandoned. The new well is also within a few miles of the good oil well struck two weeks ago on the Fred Pitterok lease. The Pennsylvania Company, which sells gas in Pittsburgh and Buffalo, has already turned this new supply into the lines.

PRELIMINARY INJUNCTION

WILMINGTON, Del., Aug. 15.—The preliminary injunction granted in the case of W. M. Henderson and others against the Plymouth Oil Co., Benedum-Trees Oil Co. and others in chancery court here has been continued until September 23, when new arguments will be heard. The action involves alleged fraud in the sale of about $5,000,000 worth of stock in the Ploymouth Oil Co., owned largely by Pittsburgh men.

SALE OF INDIAN OIL LEASES

On August 24 1,080 acres of restricted Indian lands, lying within the Otoe, Ponca and Tonkawa reservations and all within the northern Oklahoma oil area, are to be sold at public auction at the White Eagle Indian agency, 6 miles south of Ponca City.

Two tracts of the land to be sold are in the Tonkawa reservation, lying just north of the Tonkawa oil field, one consisting of 160 acres and the other of 40. Two are in the Otoe reservation, one of 120 acres and the other of 40. One of the Tonkawa tracts and one of the Otoe have not yet been leased for oil. The remaining 720 acres are all within the Ponca reservation, lying directly south of and adjacent to Ponca City.

APPEAL BELRIDGE SUIT

WASHINGTON, D. C., Aug. 15.—Efforts of the Government to regain control of all lands in Naval Oil Reserve No. 1 in California are seen in action of Attorney General Sargent authorizing an appeal in Belridge Oil Co. lease. With exception of Belridge lease, all the rest of Naval Reserve No. 1 is under lease of the Doheny interests. The validity of Belridge lease affects other leases covering several thousand acres of oil land in Naval Reserve No. 2. In the event the higher court should declare Belridge lease invalid, leases to Naval Reserve No. 2 would also be open to challenge. The ground slated for suit to cancel Belridge lease was that the Secretary of the Interior, who made the lease was without authority to do so. Additional ground alleged was the failure to invite proposals and afford opportunity for competitive bidding.

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SINCLAIR OILS

Toxic Gases From High Sulphur Crude

Report of Investigation Conducted by Bureau of Mines in Conjunction With American Petroleum Institute on Safety in Handling

By R. R. Sayers, N. A. C. Smith and A. C. Fieldner*

Gases and vapors given off by petroleum and its products have long been recognized as somewhat injurious, when inhaled in high enough concentrations. The petroleum nidustry has recognized these effects and has tried to minimize the possibility of employes encountering dangerous concentrations of the vapors. Petroleum gases and vapors have not, however, been considered as actively poisonous, in the sense that hydrocyanic (prussic) acid and phosgene are poisonous; men have been exposed to them repeatedly, and for long periods, without any marked ill effects.

Light Mexican crude oil when first introduced into the United States for refining was handled in much the same way as was customary with other apparently similar crudes; but experience soon showed that some toxic substance escaped from the crude during production and transportation and in most of the refinery operations. After a preliminary investigation several of the larger companies decided that the gases from the petroleum were the source of trouble, and therefore took precautions, wherever possible, to protect the men from exposure to these gases.

With the increasing use of Mexican crude, this problem has become important. The present report covers the work done on the subject by the Bureau of Mines and the Public Health Service under a cooperative agreement with the American Petroleum Institute.

Scope of Work and Findings

The work was divided into two parts, namely, field work and laboratory investigations. The most interesting and important of the laboratory findings were: (1) The presence of hydrogen sulphide (H_2S) in the gases and vapors from light Mexican crude; (2) the extreme toxicity of H_2S; (3) the absence of arsine, stibine, phosgene, hydrocyanic acid, and other toxic substances; (4) treatment recommended for poisoning by H_2S; (5) use and limitations of oxygen-breathing apparatus, hose masks, and gas masks.

The investigations in the field were made at refineries handling Mexican crude, at some of which accidents from gas had occurred. The difficulties encountered, the means used to combat this hazard, the gas accidents that had occurred, and the conditions existing where the accidents took place were studied.

In general, the field investigations confirmed the findings of the laboratory investigations. Hydrogen sulphide was found in storage tanks, stills, gas pipe lines, and other equipment used in refining high-sulphur crudes. Its toxicity was amply demonstrated by plant records of accidents caused by the gas. The most hazardous places at refineries were determined, and the precautions and safety methods developed by the companies, and the methods of emergency and after-treatment of cases were carefully studied.

In all gas accidents studied the men affected were close to the apparatus from which the gases escaped. The gases are rapidly diluted in air and, consequently, they would not be harmful a short distance away. No cases of poisoning, except in a refinery or at points closely adjacent to storage tanks or places where high-sulphur oils are handled, have been called to the attention of the authors.

The following companies contributed funds to carry on this cooperative investigation: Atlantic Refining Co., Standard Oil Co. of New Jersey, The Texas Co., Mexican Petroleum Co., Beacon Oil Co., Raritan Refining Co., Standard Oil Co. of New York, Tide Water Oil Co., New Orleans Refining Co., Mexican Eagle Oil Co., (Ltd.), La Corona Petroleum Co., Sinclair Consolidated Oil Corp., Union Oil Co. of California.

Summary of Investigations

The commercial development of the Mexican fields began early in the present century. Production increased until in 1921 it amounted to 193,397,587 bbls., about one-fourth of the world's production. Because of the output being so large and because of convenience for study, this petroleum was selected as typical of all high-sulphur crudes.

The Mexican wells are unusual in that the individual production is large and the pressure is extremely high. The oil flows to storage tanks, is pumped to tank steamers, transported to the United States, and again pumped to storage tanks at the refineries. This crude, like other high-sulphur crudes, contains H_2S, part of which escapes in transit.

The oil is skimmed for gasoline and kerosene or distilled to coke. The distillates are refined to make gasoline, kerosene, paraffin wax, and other products. During the distillation, H_2S is given off, but the products are free from it by the time they are refined and ready for market.

The so-called high-sulphur crudes contain 0.50 per cent of sulphur and give off H_2S. Some crudes, however, containing more than the 0.50 per cent of sulphur, may not be considered as "high-sulphur crudes." They are found in individual fields scattered throughout the producing areas of the world. The origin of sulphur compounds in crude oil is not entiely understood, but evidently it is due at least in part to contamination by sulphur deposits or sulphides in the earth. Many high-sulphur crudes contain large quantities of asphalt and are often chemically unstable, crack easily, and when distilled give off H_2S.

When light Mexican crude is distilled, a large part of the sulphur in the crude will be found in the gases and in the residuums (still bottoms and coke). For example, in a laboratory distillation to coke, 29 per cent of the total sulphur (3.77 per cent) in the crude remained in the coke, whereas 26.9 per cent appeared in the gases given off.

As the crude used in the experiments had been stored for some time before being used, it was practically free from dissolved H_2S, and the H_2S originally in the oil had escaped. At atmospheric pressure and room temperature, however, this crude would absorb almost four times its own volume of H_2S when exposed to an atmosphere of that gas. When the crude, saturated with H_2S, was exposed to air, it lost 25 per cent of the H_2S in 8 hours, 50 per cent in 19 hours and 75 per cent in 37 hours. It was not entirely free from this gas after several days. This indicates that the Mexican crude in the ground probably contains large amounts of H_2S in solution, and that (unless proper precautions are taken) this gas is given off in storage tanks in Mexico, on the tankers, and in the crude storage tanks in the United States.

The gas dissolved in samples of light Mexican crude was found to contain H_2S. After this H_2S was removed, the gas was no more toxic than other petroleum vapors, as shown by its effect on animals. The gas was found to be free from hydrocyanic acid, cyanogen, arsenic and antimony compounds and from other substances in toxic concentrations. The main toxic effect, therefore, was evidently caused by H_2S.

Field investigations show that H_2S is present in the atmosphere of tanks containing light Mexican crude or its raw distillates, and in the gases given off during the process of distillation. Hazards from this gas and from hydrocarbon vapors decrease at the following places in the order named: Crude stills, pressure stills, containers for crude oil (including tankers), and containers for the finished products (hydrocarbon vapors present; no H_2S).

Heavy Mexican crude is less dangerous than light Mexican crude, both as regards H_2S and hydrocarbon vapors.

The gas given off in the storage and refining of light Mexican crude in low concentrations causes irritation to eyes, nose, throat and lungs. When concentrated enough it causes asphyxia with sudden collapse, which requires immediate treatment. The hazard will be present if the gas escapes without enough dilution at any time during the progress of the oil from the field to the finished products.

Refiners handling this crude have learned what precautions must be taken, and to lessen the hazards have installed

*Bureau of Mines report to American Petroleum Institute.

CRUDE RUNS TO STILL AVERAGE 1,967,628 BBLS. FIRST 6 MONTHS

August Bulletin Mid-Continent Oil and Gas Association

During the first half of 1925 a total of 356,140,787 bbls. of domestic and foreign crude oil were run to stills—or an average of 1,967,628 bbls. a day. During the same period the refineries made a total of 5,202,381,919 gallons of gasoline—or an average of 28,742,441 gallons a day.

Imports during the first half of 1925 totaled 84,338,059 gallons—or an average of 465,956 gallons a day. Our imports of gasoline therefore amounted to less than 2 per cent of our supply (domestic production plus imports).

Domestic consumption during the half-year totaled 4,240,002,042 gallons — or an average of 23,403,324 gallons a day. Exports amounted to 650,427,381 gallons—or an average of 3,593,501 gallons a day. Our exports therefore amounted to over 13 per cent of our demand (domestic consumption plus exports).

On the basis of supply and demand the gasoline situation for the first half of 1925 stood as follows:

Area:		Crude to stills Barrels	% Gasoline	(a)Produced Gallons	(b)Consumed Gallons	Stock Jan. 1st	Stock June 30
East of Mississippi—							
East Coast	1924	68,095,136	30.1	862,032,688	758,879,560	246,275,432	349,428,551
	1925	66,088,971	31.1	864,286,122	713,775,593	204,437,819	354,948,348
Pennsylvania ...	1924	10,583,940	37.5	170,957,865	152,906,006	25,141,016	43,192,875
	1925	12,351,326	36.7	200,944,851	193,173,141	25,672,169	34,433,579
Indiana-Illinois..	1924	28,124,360	48.7	575,484,223	474,558,088	112,923,211	213,849,346
	1925	33,210,252	50.7	707,743,873	699,637,756	159,148,566	197,254,683
Total	1924	107,078,436	35.7	1,608,474,776	1,386,343,603	381,339,659	606,470,722
	1925	111,651,049	37.8	1,772,974,846	1,576,591,790	390,258,554	586,641,610
Increase over 1924		4.2%		10.2%	13.7%	1.5%	*3.2%
Southwest—							
Kansas-Oklahoma	1924	38,004,555	44.5	710,215,450	632,497,948	138,199,798	215,917,300
	1925	47,632,932	47.8	957,859,382	921,022,645	121,042,101	157,878,838
Texas, N. Cent.	1924	14,816,561	32.8	204,147,798	193,494,578	9,927,536	20,580,746
	1925	18,682,042	36.5	286,755,144	287,280,304	18,021,818	17,496,658
Ark.-North La.	1924	5,584,703	19.8	45,368,324	41,985,731	2,552,788	5,936,381
	1925	8,757,053	17.7	65,045,733	65,100,405	4,907,134	4,852,462
Total	1924	58,399,809	39.1	959,731,562	867,978,257	150,680,122	242,433,427
	1925	74,072,027	42.1	1,309,660,259	1,273,403,354	143,971,053	180,227,958
Increase over 1924		26.8%		36.4%	46.7%	*4.5%	*25.7%
Texas, Gulf Coast	1924	43,369,710	31.4	571,466,828	564,366,705	137,471,933	144,583,056
	1925	52,994,527	36.1	804,363,059	755,759,042	136,393,137	184,997,154
La., Gulf Coast..	1924	17,336,679	28.5	207,532,129	179,096,425	107,039,647	135,475,351
	1925	23,700,285	24.4	243,290,785	164,812,168	81,068,320	169,545,937
Total	1924	60,706,389	30.5	778,998,957	743,462,131	244,511,580	280,058,406
	1925	76,694,812	32.5	1,047,653,844	910,571,210	317,461,457	354,544,091
Increase over 1924		26.3%		34.5%	22.5%	*1.0%	26.6%
T't'l,Southwest	1924	119,105,998	34.8	1,738,730,519	1,611,430,388	395,191,702	522,491,833
	1925	150,766,839	37.2	2,357,314,103	2,183,974,564	361,432,510	534,772,049
Increase over 1924		26.6%		35.6%	35.5%	*8.5%	2.3%
Rocky Mountain	1924	13,544,905	58.5	333,204,066	250,072,839	103,587,914	186,719,091
	1924	11,664,947	57.2	276,072,343	249,566,597	115,836,469	142,342,215
Increase over 1924		*13.9%		*17.1%	*2%	11.8%	*23.8%
California	1924	74,165,228	22.9	712,945,486	621,549,339	191,780,375	283,176,522
	1925	82,057,952	23.1	796,020,627	795,968,413	431,398,184	431,460,398
Increase over 1924		10.6%		11.6%	28.0%	125.0%	52.3%
Total, U. S. ..	1924	313,894,767	33.3	4,393,354,847	3,869,396,278	1,074,899,650	1,598,858,219
	1925	356,140,787	34.8	5,202,381,919	4,806,091,364	1,298,925,717	1,695,216,272
Increase over 1924		13.4%		18.4%	24.2%	20.9%	6.0%

*Indicates decrease.
(a) Domestic production only.
(b) Domestic demand plus exports, minus imports, for such areas as are affected by imports and exports.

Supply—	Gallons
Production	28,742,441
Imports	465,956
	29,208,397
Demand—	
Domestic	23,403,324
Exports	3,593,501
	26,996,825
Daily excess of supply over demand	2,211,572

Reduced to the basis of 8,000-gallon tank cars, our daily supply of gasoline during the first half of 1925 averaged 3,651 cars—our daily demand averaged 3,374 cars. This means that for the first six months of 1925 we made, every day, an average of 277 cars more gasoline than our domestic and foreign markets called for. The result was that while on January 1 gasoline stocks totaled 1,298,925,717 gallons they slowly increased until on June 30 they totaled 1,695,216,272 gallons.

Referring to the columns "crude to stills" and "% gasoline" in table you will note that during the first six months of 1925 the East Coast refineries recovered an average of 31.1 per cent and the Indiana-Illinois re-run to stills. The Pennsylvania area refineries recovered 38.7 per cent and the Indiana-Illinois refineries 50.7 per cent. The average recovery from all crude run to stills east of the Mississippi was 37.8 per cent.

The Kansas-Oklahoma refineries recovered an average of 47.8 per cent—the North and Central Texas refineries an average of 36.5 per cent, while the low gravity Smackover crude pulled the average for Arkansas-North Louisiana down to 17.7 per cent. The average for the Mid-Continent was 42.1 per cent. The average for the Texas-Louisiana Gulf Coast was 32.5 per cent which clearly indicates that much high gravity crude

(Continued on Page 153)

mechanical safeguards and educated the men. All of the plants visited have made much progress such as: (1) Careful plant inspection and and instruction of men to avoid breathing the gases from the oil and to keep out of places where gases may collect; (2) steaming and ventilation of tanks that must be entered, and protection for men working around storage tanks; (3) vents specially designed to remove the toxic gases to places where they can be safely discharged; (4) mechanical ventilation of hazardous places which is becoming more and more common, as is the practice of keeping the gases in a closed system at all times, for example, sealed look-boxes; (5) automatic gauges, pressure recorders, steam lines for blowing out gases, and other devices to prevent accidents; and (6) ample working space around refinery equipment and piping.

Instruction of employes concerning the hazards and precautions to prevent accidents, and training in first aid and rescue methods have been found of great value. The use of protective and rescue devices, such as hose masks, self-contained oxygen breathing apparatus, and goggles, has saved lives and prevented accidents. All of these methods and devices are most efficient when one man is made responsible for their operation, especially when he has adequate assistance.

Correlation of Data

A study of the accident records of oil refineries shows that prior to 1919 very little if any data were obtained on poisoning by gas; but with the development of the medical and safety departments and the adoption of industrial insurance, investigations into poisoning have been made, and valuable information has been collected.

Analysis of gases by plant chemists show the presence of H_2S, but no record was found of an analysis of the poisonous atmosphere at the time of an accident. Gas analyses made during this investigation prove the presence of H_2S in toxic quantities at various parts of the refinery system and confirm the assumption that gas accidents recorded were caused by leakage of H_2S into spaces entered by men. Study further reveals the fact that men of many nationalities, of all ages, and with many years of service have been poisoned. Cases may be acute, or violent (asphyxia); and subacute, or between mild and chronic (irritation of the conjunctiva and the respiratory tract). The symptoms in these cases are almost identical with those of poisoning by H_2S.

Hydrogen sulphide was shown to be absent from the coke stills during ventilation and cooling. Conjunctivitis (inflamation of the eyes) in still cleaners may be caused by high temperatures or by sweat getting into the eyes.

The toxic action of H_2S has been studied on animals and men. Hydrogen sulphide has been found to be toxic in concentrations as low as 0.005 per cent, and men exposed daily to such percentages would in all probability suffer irritation of the eyes and respiratory tract, or subacute poisoning. As the concentration rises the effects become more intense, and the length of time elapsing before signs of severe poisoning and death is shorter. When a concentration of H_2S of 0.06 to 0.08 per cent is reached, dogs are affected almost immediately and collapse instantaneously (acute poisoning), followed by suspension of breathing, heart failure, and death. The conclusion, from the similarity between dogs and men in their response to H^2S, is that the above concentration would probably cause like symptoms in both.

The pathological findings (changes in tissue through injury or disease) in subacute cases are typical of irritation with congestion, edema (swelling due to watery fluid in tissues), and degeneration and destruction of the alveolar cells (cells lining the terminal air sacs in the lungs). The alveolar spaces may contain transudate (watery fluid from the blood) and cellular elements (red and white blood cells and alveolar calls). The microscopical findings of lung tissue in most acute cases are not far from normal. Some cases show evidence of congestion of the lungs.

A study of cases of poisoning by refinery gases shows that no definite method for the treatment for acute cases exists, but treatment for subacute cases is symptomatic. For conjunctivitis, it consists of irrigation with boric acid solution followed by argyrol, usually 10 per cent.

In more pronounced cases, a bland ointment, such as vaseline, neutral petroleum, or boric acid ointment should be applied to the eyelids. Sometimes, when pain is marked, ice compresses are beneficial when applied for 15 minutes ot an hour three times a day. Early use of smoked glasses will relieve eyestrain. For pharyngitis (inflamation of the mucous membrane of the throat), an application of 10 per cent silver nitrate or argyrol is advisable, and the use of an oily spray may be an aid. For bronchitis, the use of an expectorant is advisable. A patient with fever should be confined to bed. These cases always should be under the direction of a physician.

An investigation of the treatment for acute H_2S poisoning was made with animals as subjects. Various respiratory stimulants were tried with artificial respiration. The data obtained showed that artificial respiration should be given immediately after the rescue. Many lives may be saved in this way. Oxygen was beneficial when given at once.

Protective Devices

Protection to men entering atmospheres containing petroleum gases and vapors or H_2S is afforded by various types of respiratory apparatus such as gas masks, hose masks and oxygen breathing apparatus. Each has its own limitations as well as advantages, and must be used only under proper conditions.

The canister type of gas mask containing 600 c. c. of dry high-grade activated charcoal protects a wearer one hour or more against 1 per cent of gasoline vapor in air which is otherwise normal. It, however, protects against 1 per cent H_2S in air only 3½ minutes. The same canister filled with soda lime protects against 1 per cent of H_2S for 17 minutes, but does not protect against gasoline vapor. The same canister filled with the Army gas mask mixture of charcoal and soda lime protects against 1 per cent of gasoline for 36 minutes, and against 1 per cent of H_2S for 11 minutes. Longer protection can be had by using larger canisters, that of 3,600 c. c. capacity being the largest practicable size.

Canister gas masks are not suitable for rescue and emergency use in confined or unventilated places. They should be used only where ventilation supplies enough oxygen to support life, and where the concentration of toxic gases is so low that men can work without protection for short periods; as, for example, places where the workmen suffer from dizziness, headache, and other ill effects. These effects can be eliminated by the use of the canister gas mask, but the general use of this type of mask is not recommended.

Hose masks protect against any irrespirable atmosphere that the wearer's skin will endure. The hose makes them somewhat cumbersome and limits the wearer's field of action. They are simple to use, require little training, and are comparatively inexpensive. The pressure type of hose mask is the safest of all breathing apparatus, as it requires an attendant to operate the air pump, and prevents leakage of gas into the mask.

Self-contained oxygen breathing apparatus protects against all irrespirable atmospheres and allows much greater field of action. The weight of the apparatus and the necessity of special training of the wearer are the chief disadvantages. Some of these disadvantages have been largely overcome in the new McCaa half-hour oxygen breathing apparatus developed by the Bureau of Mines. It weighs 17 pounds, approximately half that of the two-hour types of apparatus. It is compact and is worn on the chest, thus permitting the wearer to enter tanks through manholes more easily. The breathing bag is impermeable to gasoline vapors, and the minimum service time of 30 minutes is ample for rescue and emergency work. Men must be trained in its use in the same way as for the two-hour apparatus. The hose masks of the pressure type will probably be the most useful in oil refineries. Self-contained oxygen breathing apparatus (McCaa half-hour type) will probably be most satisfactory for rescue and recovery work, wheres the canister gas mask can be used only for protection where men are accustomed to work in low concentrations.

RECOMMENDATIONS FOR SAFETY

1. Because of the toxicity of H^2S, all gases and vapors from Mexican and other high-sulphur petroleums should be confined, as far as possible, to closed systems of manufacturing equipment and piping, and the tankage should be properly vented.
2. Inasmuch as gas may unavoidably escape in some stages of handling the oil protection should be provided employes in all such stages it possible.
3. Employes should be instructed regarding the injurious properties of the gas, and warned to avoid it.
4. Employes should be trained in rescue methods and in first-aid treatment, particularly in methods of artificial respiration and the administration of oxygen to men overcome by gas.
5. Hose masks or oxygen breathing apparatus, or both, should be available at convenient points; and men should be instructed in their correct use and proper care.

MEXICO DENIES REPORT

The Mexican Ministry of Industry and Commerce has issued a statement that recent reports regarding the decline of the Mexican petroleum industry are incorrect. While admitting production for the first six months this year is down 12 per cent, it was claimed this was caused by over intensive exploitation of wells which had been worked too long, and that the number of permits granted in 1925, which will probably be actively developed after September, when the rainy season has passed, is the greatest ever issued. A number of permits have been granted for the Valley of Mexico. It was further said that the Mexican National treasury has not suffered in the slightest degree, decline in oil output being offset by the higher prices for petroleum products throughout the world.

FIRST 6 MONTHS CRUDE RUNS TO STILLS

(Continued from Page 152)

was run to stills on the Gulf Coast to offset the low gravity crude produced locally together with Mexican imports.

The average recovery for the five states of the Southwest was 37.2 per cent—for the Rocky Mountain area 57.2 per cent—and California 23.1 per cent.

The average for the entire United States for the first half of 1925 was 34.8 per cent—for the first half of 1924 it was 33.3 per cent. Taking the United States as a whole, 13.4 per cent more crude was run to stills during the first half of 1925 than the first half of 1924—and 18.4 per cent more gasoline was made from it.

In the column headed "consumed" the figures are "composite" in the sense that the Government figures for imports and exports are for the United States as a whole and are not allocated to specific refining areas. This is clearly shown by tables A and B which show the amounts of gasoline imported and exported. In the large table the amounts for production, stock January 1 and stock June 30 are the same as in tables A and B. If for the 6-month periods domestic consumption and exports are added and imports subtracted the totals at the bottom of the "consumed" column in the large table will be obtained.

In a broad general sense it is probably true that for the Mid-Continent, the Indiana-Illinois area and the Pennsylvania area the figures for "consumed" are not affected by imports and exports—whereas it is obvious that the "consumption" figures for the East Coast. Gulf Coast and California are "composite" and include imports, exports and domestic consumption. To this extent, then, the figures for the East Coast, Gulf Coast and California do not reflect the real "consumption" situation—and this limitation of the figures should be kept clearly in mind when considering the relation of production and consumption of these areas.

Comparing the first half of 1924 with 1925 we find that on January 1. 1925, gasoline stocks were 20.9 per cent higher than on January 1, 1924—and that the stocks June 30, 1925, were 6 per cent higher than on June 30, 1924. From January 1 to June 30, 1924, gasoline stocks increased almost 49 per cent—and from January 1 to June 30, 1925, gasoline stocks increased less than 31 per cent.

Table A—Gasoline—Jan. 1 to June 30, 1924

Stock January 1	1,074,899,650
Production	4,393,354,847
Imports	73,865,011
	5,542,119,508
Domestic demand	3,332,385,140
Exports	610,876,149
Stock June 30	1,598,858,219
	5,542,119,508

Table B—Gasoline—Jan. 1 to June 30, 1925

Stock January 1	1,298,925,717
Production	5,202,381,919
Imports	84,338,059
	6,585,645,695
Domestic demand	4,240,002,042
Exports	660,42/,381
Stock June 30...4	1,695,216,272
	6,585,645,695

WALTER DICKINSON'S DEATH

SHREVEPORT, La., Aug. 15.—Walter L. Dickinson died in a local sanitarium at Shreveport on Tuesday afternoon, following an accident which occurred Sunday afternoon near Forbing. Mr. Dickinson was felling an old derrick, 8 miles south of Forbing, and had severed two of the four timbers when the derrick began to topple and before he could reach safety fell across his body. He was rushed to the sanitarium at Shreveport and lived until Sunday afternoon at 2 o'clock.

Mr. Dickinson came to Shreveport in 1911 from Shiloh, N. J., and has been prominent in oil circles here since that time. He was at one time associated with the Busch-Everett interests, later sold the Reid gas engine in this territory and finally became an independent operator. He was associated with Bill Rowe in the Homer oil boom in 1919 and was reputed a millionaire at that time but suffered reverses and was again obliged to start at the bottom of the ladder. The only surviving member of his immediately family is a son, Walter L., Jr., aged 10 years.

The body was shipped to his former home in Shiloh, N. J., where a brother resides.

CLARK C. DENNY DIES

Clark C. Denny, independent operator, died Thursday, August 13, at the home of his mother in Denver, Colo. Mr. Denny had recently been operating in the Blackwell, Okla., area where he was widely known. Among the companies in which he was interested were the Flosmer Oil & Gas Co. and the Harold Oil Co. Mr. Denny was 36 years old.

LAWTON OKLA. POOL HAD FINE START

(Continued from Page 22)

ly cash basis on which the deals were made, no oil payments whatever having been involved in the trading up to Saturday noon.

The one-acre tract in the northwest corner of the northeast of Section 30, on which the little country school is situated, was leased to Dr. C. T. Caraker and others, of Duncan, for an unknown consideration. If an oil field should materialize, as the various purchasers around the Hanbury semi-wild confidently expect, a new course may be added to the curriculum in this small house of learning when the "saddest days of the year" begin next month. The students may have an opportunity to observe one phase of the oil business at first hand, and the old familiar A B Cs may be taught to a new tune, the creaking of the bull wheel. A is for anvil, B is for basic sediment, C is for crown block, etc.

History of the District

The new Hanbury producer is not strictly a wildcat, being only a mile north of 3 small pumpers which were drilled about four years ago by the Gladys Belle Oil Co. and the Carter Oil Co. They have now been abandoned.

The Carter well was located in the SE cor. NE of Section 31-2n-9w, and swabbed 50 or 60 bbls. from sand at 1,656½ to 1,663 feet. It was completed in January of 1921 and was abandoned in February of 1924.

The east offset to this well was completed in September of 1920 for 35 bbls. in sand at 1,535-42 feet. In 1923 Harry Hanbury took it over and deepened it a little, getting a 30-bbl. producer at 1,550-85 feet. This was completed in February of 1924.

The Gladys Belle also drilled one in the NW cor. SW of Section 32-2n-9w, which made only 10 bbls. from sand at 1,642-45 feet in June of 1921. This well was abandoned late in 1923.

The same company drilled the remaining offset in this corner of the two sections and it was good for 35 bbls. from sand at 1,553-65 feet in January of 1921. It was deepened in 1923 and was abandoned as dry at 1,666 feet in April of that year.

There is a deep dry hole a half mile east and a quarter of a mile south of the Hanbury producer, which cuts off all hope of an extension in that direction. It was drilled in September of 1921 by the Gladys Belle Oil Co. It had good showing of oil in sands at 820-25 feet, 1,524-40 feet, and 1,672-83 feet, and would have made a 10-bbl. pumper but was abandoned at 2,200 feet. This well was also taken over by Hanbury in 1923, and was deepened to 2,550 feet, where it was abandoned.

PETROLEUM SECURITIES ARE GENERALLY LOWER

(Continued from Page 142)

Co. and subsidiaries for the six months ended June 30 shows net profit of $455,-135 after interest, depreciation, etc., as compared with $182,344 in the first half of 1924. The latter amount excludes $2,087,672 profit on the sale of capital assets. Accumulated dividends on preferred stock amounted to 24½ per cent on June 1, 1925.

The six months' profit this year was equal to $19.81 a share earned on $2,296,-400 7 per cent preferred stock. Allowing for regular preferred dividends, the balance is equal to 47 cents a share on 785,-068 shares of common. In the same period last year the preferred earned $7.94 a share and the common 13 cents a share.

Superior Oil Corp.

Superior Oil Corp. for quarter ended June 30, 1925, reports deficit of $120,-064 after depreciation and depletion, comparing with deficit of $123,877 in preceding quarter and defiicit of $22,422 in second quarter of 1924.

For six months ended June 30, 1925, deficit totaled $243,941 after depreciation and depletion, against deficit of $108,792 in first half of previous year.

Sun Oil Co.

Directors of the Sun Oil Co. declared a quarterly dividend of 25 cents a share on the capital stock payable September 15, to stockholders of record August 25. The company reports net profits of $2,-529,001 for the six months ended June 30, 1925, and a surplus of $2,225,766 after dividends.

Mexican Seaboard

The report of the Mexican Seaboard Oil Co. and the International Petroleum Co. for the quarter ended June 30, showing net profits of $67,045, after interest and drilling expenses, but before depletion and Federal taxes, compared with a net loss of $112,188 in the preceding quarter and a net profit of $1,096,416 in the second quarter of 1924. The net loss in the first half of 1925 was $45,143, against net profits of $2,524,658 in the first six months of 1924.

The Cia International de Petroleo y Oleoductos, the pipe line subsidiary of the Mexican Seaboard, reports for the June 30 quarter net profits of $52,587 after expenses and amortization, against net profits of $54,278 in the second quarter of 1924.

Panhandle P. & R. Co.

Panhandle Producing & Refining Co. reports for quarter ended June 30, 1925, net income of $61,483 after taxes and deductions, but before sinking fund, depreciation and depletion. This compares with $182,923 in preceding quarter and $68,511 in second quarter of 1924.

Net income for six months ended June 30, 1925, was $244,407 before providing for sinking fund, depreciation and depletion, comparing with $255,146 in first half of previous year.

REFINED MARKET WEAKNESS SPREADS

(Continued from Page 20)

(naphtha) were few, prices compared favorably with those of the 56-58, 450 gasoline, ranging from 9½ to 10 cents.

There seemed to be little or no buying of higher gravity gasolines during the week with resultant declines in all grades. On the 64-66, 375 gasoline, the market appeared to be 12½ to 12¾ cents but many buyers maintained they could shade these prices if they wished. Some 60-62, 390 gasoline was reported bought as low as 11¾ cents. While trading in 68-70, 350 gasoline is comparatively nothing at this time of the year, some offerings were made at 14 to 14½ cents.

Natural Gasolines and Blends

For the first time in several months price distinctions appeared in various grades of natural gasoline the past week, with the B and C grades declining in strength and prices more rapidly than Grade A or Double A. Naturals perhaps, were a little more active than straight-run gasoline but, nevertheless, the movement was insufficient to resist the steady slipping of prices. Blends continued virtually inactive although a few manufacturers were on hand with offerings as low as 10¼ cents.

Kerosene and Distillates

The only particularly hopeful spot in the entire Group 3 refined structure rested on the kerosene and distillate situation. The ability of refiners to store distillates for increased fall and winter demand was sufficient for the product to continue steady. In fact, the steadiness of distillates was reflected in a slight gain of strength in kerosenes, particularly the 42-44 water white grade. However, the 41-42 water white product still could be obtained for 4⅛ cents and some buyers said they could get some as low as 4 cents. The higher gravity kerosene was a little difficult to find but most of the sales made were at the market figures of 4½ to 4¾ cents. A few sales were made during the week as high as 4⅞ cents. Prices of distillates were unchanged with 38-40 moving at 3⅝ to 3¾ cents, and 36-38 at 3½ to 3⅝ cents.

Fuel Oil and Gas Oil

Fuel oil, which has been one of the mainstay products for refiners for a number of weeks, took on a slightly easier tone the past week after its period of increasing tightness. This softening in the face of the impending coal strike the last of August was attributed solely to rumors of a general Mid-Continent crude oil reduction. Refiners who have shown a tendency to store their fuel waiting possible higher prices as a result of a coal strike, the past week showed signs of uneasiness at their stocks as talk of a crude reduction became more general. This was indicated in offerings of fuel at prices slightly under last week's quotations. While last Tuesday very little fuel could be obtained under $1.05 sales since then have been made for $1.02½ on grades below 22 gravity. Even 24-26 fuel, which has been extremely tight at $1.07½ to $1.10 now can be bought for $1.05. Gas oil slipped during the week in sympathy with fuel and Tuesday could be bought for 3⅛ with buyers trying to get the product as low as 3 cents.

Lubricants and Wax

Although prices were unchanged, manufacturers of lubricants reported a slightly decreased movement of all grades of lubricants from Group 3. This was explained in the fact that buyers were a little uncertain about the demand from now on with the peak of consumption believed passed. Wax was unchanged during the week.

CONTINUE OTOE TRUST FOR TEN YEARS MORE

Through an executive order signed by President Coolidge, the period of trust in the name of the Secretary of the Interior over allotments of land made to Indians of the Otoe Reservation in Oklahoma, has been continued another 10 years, it was announced at the Interior Department today.

The Indian allotments affected number 441, to which fee patents have been issued in 159 cases, leaving 282 cases for present consideration.

All of the land on the Otoe Reservation was allotted by an act of Congress 25 years ago providing a trust to prevent the Indians from selling it for that period with the right of extension for another 10 years by the President at its expiration.

NEW AUTO TAXES IN FRANCE

New automobile taxes have been imposed in France. They will remain in force until January 1, 1926, when further changes may be made. Under the taxes now in effect, privately-owned automobiles pay 45 francs per h.p. when their engines are rated at five horsepower or less; 60 francs per h.p. for the next five h.p.; 72 francs per h.p. for the next ten; 84 francs per h.p. for the next ten; and finally, 96 francs for each unit of h.p. over 30. Thus a private car may be subject to five different tax ratings, which in the case of a vehicle of 40 h.p. would make the annual tax 3,045 francs, or approximately $150. Trucks pay 60 francs per h.p. irrespective of the power of their engines; busses and taxis pay 48 francs per h.p.; cycle cars are subject to the same rate of tax as automobiles; motorcycles and motor boats pay 20 francs per h.p.

LINE TO MISSISSIPPI RIVER?

HOUSTON, Tex., Aug. 17.—The Southern Pipe Line Co., formerly the Crusader Oil & Pipe Line Co., contemplates laying 140 miles of 10-inch line from the Smackover, Ark., Field to a point on the Mississippi River. Equipment men met the managers of the line company at Shreveport during the week and submitted prices on pipe, pumps, heaters and other equipment. The line will be expected to handle 40,000 bbls. per day.

SPROUL APPOINTED RECEIVER

PITTSBURGH, Pa., Aug. 15.—Robert C. Sproul, of this city, has been appointed receiver of the Central Oil & Gas Co. of America, of Dover, Del., by Federal Judge Robert M. Gibson, following a suit in equity filed by W. B. Pearsall, a stockholder, of this city. Sproul was directed to wind up the company's business, convert its property into cash, pay creditors with the proceeds and divide any balance among stockholders. The receiver was asked for to avoid threatened suits, executions and attachments.

Harry Hanbury's well in Section 30-2n-9w, which started off at 40 bbls. an hour, caused a wild scramble for acreage which sold at high prices and for cash and then dropped off to 20 bbls. a day. It may "come back."

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Increasing Viscosity of Lubricants

German Refinery Manufactures Quality Product Known as "Voltol" From Low Viscosity Oils Through Electrical Process

By Elbert C. Isom

INCREASING VISCOSITY OF LUBRICANTS

The little village of Potschapple in Germany lies at the outskirts of Dresden, ancient stronghold of former Saxon kings, and present capital of Saxony, a powerful State of the new German Republic. It is there that the Deutsche Voltolwerke A. G., subsidiary of an internationally known German petroleum company, has erected and successfully operates one of the most unique lubricating oil works in all Europe, in fact in all the world.

The company takes its name from its products which are known as voltal oils, or "Voltol". They constitute lubricating oils of remarkably high viscosity manufactured, with the aid of electricity, from low grade, low viscosity oils. By means of this peculiar process thin, cheap oils have been converted into lubricants of superior quality, thus commanding many times their original market value. On account of its novel manner of production as well as its exceptional lubricating ability, Voltol appears to be something of a phenomenon.

In the accompanying article the writer, who recently visited the plant, gives an interesting description of this important achievement of both petroleum and electrical engineering.

The history of Voltol appears to date from the year 1909, when a basic patent for the process was issued to Hemptinne and Alexander, residents of Ghent, Belgium.* Hemptinne endeavored to interest Belgian capital in their invention but, meeting with scant encouragement, the proposition was placed before the German oil company mentioned above. The German technologists were quick to see the merits of the process, with the result that they acquired a 20 per cent interest in the patent rights and furnished the funds necessary for the construction of a semi-commercial experimental unit at Brussels in 1912. The plant had just been completed and was successfully turning out oil when the war broke out in 1914.

With the German occupation of Belgium the concern interested was allowed to take possession of the Brussels plant and to take over sole rights to the old Hemptinne patent. By that time the Allied blockade was beginning to make itself felt and Germany was becoming very hard pressed for petroleum products of all kinds, especially for a vegetable castor substitute to lubricate the motors of their airplanes and for a high viscosity Diesel engine oil suitable for use in the power plants of their submarines. Accordingly, the Voltol works were subsidized by the Government, and Dr. Nernst, who is perhaps the foremost electro-chemist in Germany, was placed in charge of the work by the "High Command". As a result the manufacturing process was developed along the lines of full sized commercial operation which led to the establishment of the plant at Potschapple in 1917-18, under the title of "Deutsche Elektrion Ol-Gesellschaft m. b. H." To this new location was transferred most of the equipment from the original plant at Brussels. There in the last year of the war, they succeeded in producing 1,650 tons (11,-550 bbls.) of a highly satisfactory airplane engine oil. It was not until 1922 that the name of the company was changed to "Deutsche Voltowerke A. G.", which now owns the German and foreign patents relating to Voltol and its manufacture.†

Theory of Voltol

Voltol is the result of subjecting thin, low viscosity oils to a glow-discharge of relatively high-frequency electricity. Up to the present there seems to be a wide divergence of opinion among chemists as to just what action the glow-discharge has upon the oil being treated. According to one prominent technologist, who has been closely associated from the very first with the production of these oils, it is the unsaturated hydro-carbon molecule which is acted upon. The molecule, he claims, is thus polymerized and may increase to 10 times its original size. For example, when a liquid compound such as oleic acid is voltolized it is completely converted into stearic acid, a solid. In the patent papers and other literature dealing with this subject, frequent reference is made to Berthelot's experiments demonstrating that hydrogen may be fixed by benzine and turpentine and that polymers are thus formed. It is further stated that the affinity of hydrogen for the usaturated compounds existing in the oil is favored by the glow-discharges, so that the molecules containing unsaturated carbon atoms are hydrogenerated and thus built up. To this end the patents and treatises on the process call for the reaction to take place in an atmosphere of hydrogen gas. At Potschapple, however, the writer ascertained that no hydrogen or other gas was introduced into the treating vessels and that the reaction took place merely under a reduced pressure of 65 centimeters (26 inches) of mercury. It seems clear, therefore, that whatever the action may be it is solely the result of the electrical discharges.

Upon being voltolized, all oils—vegetable and animal as well as mineral oils—lose their characteristic odor and all take on the same peculiar Voltol odor. Vegetable, animal and fish oils (fatty oils) are even more susceptible to the voltolizing process than are mineral oils. They respond more quickly to the treatment and, if voltolized to the limit, tend to become solids while the viscosity curve of a mineral oil subjected to the process forms a parabola, if one plots the time as abscissa and the seconds of viscosity as ordinates.

As stated above, Voltol still appears today in many respects to be a phenomenon, for the action of the glow-discharge upon the oil and the actually greater lubricating quality of the original material, increased by that treatment, has not been fully scientifically explained up to the present time. It remains an indisputable fact, however, that through the voltolizing process the oil attains a lubricating ability far exceeding even that of vegetable castor. It has also been demonstrated by scientific tests and by actual practice, that a Voltol possesses greater friction reducing properties than any other animal, vegetable or mineral oil of equal viscosity. The friction reduction often amounts to as much as 30 per cent. The investigation of Voltol has been conducted by some of the best known lubricating engineers in Germany the results of whose researches will be discussed later in this paper.

Voltolizing a mineral oil does not affect any of its tests except viscosity. Oils to be used for this purpoe must, therefore, have good flash, fire and cold tests and be free from wax, asphaltic matter or any oxidizable substance. American "500 red" oil (54-56 Saybolt at 210 degrees Fahrenheit) makes an ideal charging stock. The viscosity of this material is easily raised by the voltolizing process of 12 Engler at 100 degrees Centigrade. (450 Saybolt at 212 degrees Fahrenheit.) Voltal oils, it is claimed, maintain a high viscosity and do not oxidize or go off color even at elevated temperatures.

Normal Voltol

As Voltol is chiefly employed for compounding, the plant at Potschapple now standardizes on an oil of 40 Engler viscosity at 100 degrees Centigrade. (1,-500 Saybolt at 212 degrees Fahrenheit.) This product is called "Normal Voltol" and is a voltolized mixture of a vegetable, fish or animal with a mineral oil. As has been mentioned, fatty oils upon becoming voltolized to the limit in their pure state, become too viscous to flow. Such oils are quickly and easily thickened while mineral oils respond more slowly to the voltolizing process. Pure fatty oils have been brought from 2 Engler at 100 degrees Centigrade up to 176 in the short space of 48 to 50 hours, while to raise the viscosity of a straight mineral oil from 6 Engler at 100 degrees Centigrade to 30, requires at least a week. Such practice would be altogether too costly and in consequence normal Voltol is a mixture of about 50 per cent rape seed, cottonseed or fish oil with an equal volume of pure mineral oil such as American 500 Red, or similar stock. The fatty oil is first introduced into the treating vessel and subjected to the glow-discharge until its viscosity has been raised to the desired point. The mineral oil is then gradually added as the process continues until the proportions are about equal and the mixture has a viscosity of 40 Engler at 100 degrees Centigrade, or, in American units, 1,500 Saybolt at 212 degrees Fahrenheit.

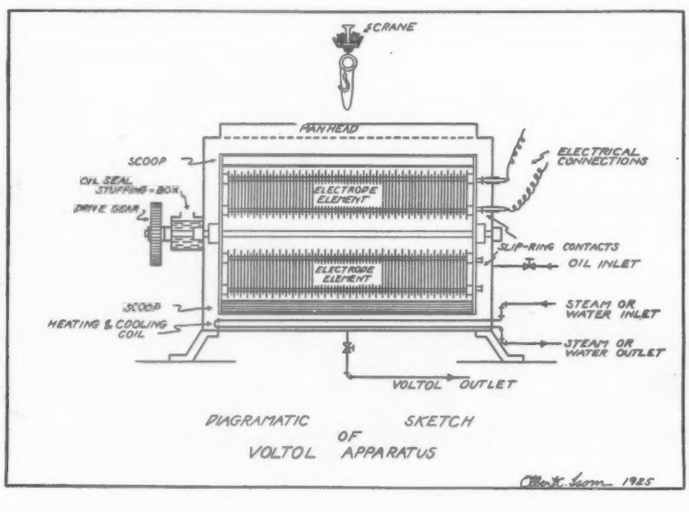
The writer was shown samples of various oils which had been voltolized and samples of the same materials before being subjected to the voltol process. There certainly was a remarkable difference. For example, a pure mineral oil of 30 Engler at 50 degrees Centigrade was brought up to 90 at the same temperature. In other words its viscosity was increased three times. Even more astonishing results have been obtained when the mineral oil is blended with animal or vegetable oils.

Manufacturing Process

The complete plant at Potschapple is housed in one large building, which, in addition to the treating vessels, contains a generator room, boiler and pump room, barreling, shipping, receiving and storage rooms, laboratory and office.

The Voltol process is carried out in a closed horizontal cylindrical steel vessel of 30 cubic meters (about 1,000 cubic feet) content, under a reduced pressure of 60-65 cm (24-26 inches) of mercury. As previously mentioned, no hydrogen or other gas is introduced into the treating vessel. The oil is held, however, at 80 degrees Centigrade, (176 degrees Fahrenheit) at which temperature and under such a high vacuum, even heavy oils will give off vapor. The Voltolizing is, therefore, doubtlessly accomplished in a rarefied atmosphere of oil vapors.

There are four treating vessels or converters in operation at Potschapple and space is provided for the addition of two more. These are to be of the new vertical type which the writer was shown on an experimental scale in the laboratory. The converters in present use are of exceedingly heavy construction. They are equipped with large rectangular manheads on the top to permit the removal of the electrode elements by means of a small traveling crane. Four elements are employed in each vessel arranged on a rotating shaft driven, through an oil-sealed stuffingbox by a 220-electric motor. The electrode elements are made up of aluminum plates about 32 inches square and 1-25 of an inch in thickness, separated from each other by glazed fiberboard insulators about twice as thick as the plate, and slightly larger in order to prevent the high



DIAGRAMATIC SKETCH OF VOLTOL APPARATUS

Elbert C. Isom 1925

*German Patent No. 234543, Class 23 C-1.

†German patent numbers—
234543 Class 23 C-1.
236294 Class 23 C-1.
185931 Class 12 H-4.

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Venezuelan Oil Fields

Mene Grande, in the District of Sucre, State of Zulia, one of the great oil fields of the world, was discovered in 1914. Shipments started in 1917 when the 12-mile pipeline was completed, to San Lorenzo on the Lake. Production to end of 1924, 13,500,000 bbls. 38 wells are producing around 25,000 bbls. per day.

Ralph Arnold predicts that this field will produce more oil than the Coalinga field in California, which has produced over 282,000,000 bbls. of oil in the last 30 years. These fields are similar in age of beds, character of the sands, and grade of oil.

The banner well in Mene Grande has produced 2,500,000 bbls. in last 5 years, and is now producing at rate of 1,500 bbls. per day. This property belongs to Royal-Dutch, subject to one-eighth royalty to General Asphalt. A number of American companies own properties in the vicinity.

The oil industry should keep posted

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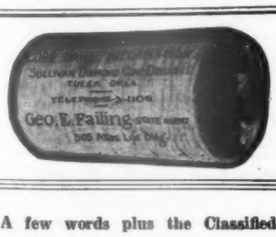

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tension current from arcing around the edges. Small wooden blocks serve to support the aluminum plates and to keep them properly spaced from the fiber insulators. The distance between aluminum plates is 10 mm, or about 2-5 of an inch. The total working surface of the electrodes in each Voltol apparatus is 750 qm. (8,050 square feet) or about 2,000 square feet per electrode.

The capacity of each converter is approximately 8,000 United States gallons although in actual operation but 2,000 gallons are charged. The vessel is thus filled only about one-fourth full, it being impossible for the glow-discharge to take place if the electrodes are immersed, due to the di-electric strength of the oil. A bucket arrangement or scoop is attached to the electrode carrier by means of which the oil is picked up and poured between the plates of the electrodes during the discharge and thus subjected to the action of the high tension electric current. The vessels are provided with a pipe coil in the oil through which steam is turned to secure the desired operating temperature of 80 degrees Centigrade (176 degrees Fahrenheit) and through which cooling water is run during the treat to prevent the temperature from going any higher due to heat generated by the glow-discharge.

Purchase Electric Power

The electric power is purchased from the city of Dresden. It is the ordinary commercial alternating current of 4,200 volts 3 phase and 50 cycles. A small portion of it is stepped down with transformers to 220 volts for lighting the plant and for driving small electric motors. The major part, however, is fed directly to the motors of the motor-generators and thus converted to the single-phase high frequency current of 4,600 volts at 500 cycles employed to produce the glow-discharge. The motor-generator units are of 400 horsepower with a capacity of 75 amperes. As each Voltol apparatus draws 23 amperes at this potential, one motor-generator can thus carry the load of three treating vessels. There are two such generating units at the Potschapple plant, which provide ample electricity for the four present voltolizers and which will, it was stated, also take care of the two additional ones to be installed. Electricity thus produced costs one gold mark per 60 K. W. H., or 5 pfennigs per kilogram of finished Voltol—in American terms about 4 cents per gallon.

The electric current is conducted through insulated bushings hermetically sealed in the vessel, to slip-rings attached to the electrode holders. Two bus-bars running along the side of the electrodes distribute the current to the aluminum plates by means of a number of flexible leads. The shaft bearing the electrodes is rotated at a speed of about 1 revolution per minute. As the pressure in the vessel is reduced the glow-discharge between the electrode plates converts the interior into a veritable cylinder of violet fire, which may be observed through a heavy plateglass peep-hole set in the manhead. The oil dropping upon the electrodes and spraying between the plates in the presence of the high-frequency discharge doubtlessly attains a great number of vibrations per second. Thus the Voltol process secures intimate contact between the oil under treatment and the treating medium, which is the efficiency basis of any oil process, whether the reactive agent is heat, chemicals or electricity.

The time required for the operation varies with the kind of oil treated. Running the mixture of fatty and mineral oil known as Normal Voltol, each converter can produce about 900 gallons in from two to three days. The four units together handle 3,600 to 4,000 gallons in that length of time. The writer was informed that the two new vertical machines will have greater through-put together with a lower consumption of electricity.

It is claimed that with the new apparatus the efficiency of the reaction is increased from 50 to 60 per cent and the time required cut down by more than

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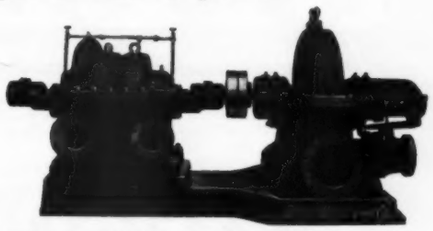

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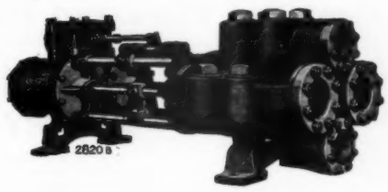

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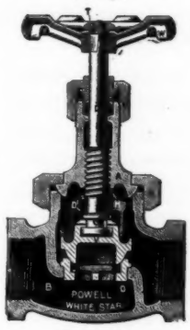

Fig. 102
Sizes ¼ to 3 in.

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half. The old style voltolizers as described above are horizontal and are provided with a mechanical means for rotating the electrode elements and thus securing intimate contact between the electrical discharges and the oil. The new machines, as has been mentioned, will be vertical. The oil will be fed in at the top, counter-current to nitrogen or some other inert gas, introduced at the bottom in such a manner that it will bubble up through the electric field and the voltolizing oil. It is stated that under the influence of the vacuum and high potential electric current that gas will become ionized and will bring the entire oil body to a foamy state. Under such conditions and being constantly agitated by the up-rising gas, there will be an excellent contact between the oil and the glow-discharge.

Application of Voltol

The properties and uses of Voltol are best explained by the following quotation from a treatise by Chief Engineer Heitmann of the Deutsche Voltolwerke A. G.* This paper was presented to the writer upon the occasion of his visit to the Potschapple plant and has been translated by him from the original German.

"Voltal oils have the ability to adhere to metallic surfaces in a considerably greater amount than any other lubricating oil. They are not pressed out of the bearing and the friction-surface even by the greatest applicable pressures, temperatures and velocities.

"Voltal oils are especially adapted for lubricating the cylinders of Diesel motors (internal combustion motors) and explosion motors, to which class automobile engines naturally belong. During the war they were the only medium that would meet the severe lubricating requirements of the highly heated cylinder of the rotary airplane engine. It may be mentioned that the airplanes of the Allies in the World War were lubricated throughout with pure castor oil. (Translators note: Mr. Heitmann evidently never heard of 'Liberty Aero Oil.')

"An important improvement in lubrication and an increased saving of lubricating material is obtained in piston (reciprocating compressors by the employment of Voltol. The interior of the cylinder as well as the piston of the compressor becomes covered with a perceptible strong film of Voltol. Due to the access of moisture to the cylinder walls, a light emulsion occurs with Normal Voltol on the friction surfaces of the machine, so that a foundation is readily built up on the metal parts, over which forms a less viscuous, but good, slippery emulsified lubricating film. Due to this peculiar action, a previously unknown lubrication and economy of lubricant is obtained. In the foregoing manner the stuffing-boxes of compressors (similarly of pumps) may be best oiled and maintained.

"Because the refined voltal oils have the highest viscosity and flash point, they are the most adaptable medium for the lubrication of high-pressure compressors. They minimize the danger of explosion, which is always to be feared when employing the customary high-pressure compressor oils. The Voltol is completely consumed in the cylinder without leaving behind any residue.

Used in Compounding

"A further wide field of employment for Voltol is in the compounding of steam-cylinder oils. It is known that the quality of cylinder oil and its lubricating value may be considerably raised by the addition of certain fats, that is, saponifiable material. Such improvement is particularly obtained through the use of Voltol steam-cylinder oil. The steam enters the cylinder in an intimate mixture with the Voltol cylinder oil. Asphalt-like bodies such as are found in many steam-cylinder oils, are avoided by the use of Voltol, and the depositing of sticky or hard residues in the cylinder or valve box is impossible, for an excellent, slip-

*Bericht uber die Besichtigung der Fabrik der Deutschen Elektrion-Ol-Gesellschaft m. b. H. in Potschapple durch den Dresdener Elektrotechnischen Verein.

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pery oil film is formed on the inner cylinder walls.

"The first claims for mineral Voltol in the lubrication of ring-oiling bearings on the heavy electrical generators which produce the single-phase alternating current used to cause the glow-discharge in the manufacture of Voltol at Potschapple, may be verified in the mechanical installation of that plant. An ordinary mineral oil of Engler viscosity at 50 degrees Centigrade (225 Saybolt at 122 degrees Fahrenheit) was substituted for Voltol in the ring-oiling bearings of the generators. Upon the employment of this oil (it was the best-known bearing lubricant) one bearing became considerably warmer. At the point where it is measurable the bearing temperature was 47 degrees Centigrade (116.6 degrees Fahrenheit) at a room temperature of 23 degrees Centigrade (73.4 degrees Fahrenheit). A third of the original bearing oil was then drawn off and replaced with an equal volume of mineral Voltol. The viscosity of the mixture was thereby raised to about 10 Engler at 50 degrees Centigrade (375 Saybolt at 122 degrees Fahrenheit), in spite of which the bearing temperature fell during operation from 47 to 41 degrees Centigrade (116.6 to 105.8 degrees Fahrenheit) at the same room temperature. That is lubricating technology of a previously unknown vision. For the lubrication of ring-oiling bearings on heavy electrical rotary-converters, dynamos and electric motors, mineral Voltol is accorded the best material to increase the efficiency of the machine and its safety of operation.

"A realm of employment to which Voltol is especially adapted is that of ship's machinery. So-called 'Marine oil' has previously been a compounded article to produce a machine oil that will, in use, form an emulsion with sea water. Normal Voltol fulfils in an excellent manner all the demands to which one can place a marine oil. It forms in the bearings and particularly upon the crosshead-guides a fast-adhering, glutinous, emulsified lubricating film which the rapid motion of the sliding piece will not remove. It thus maintains with the least consumption of lubricating material, a lasting lubrication film on the friction surface, which may be guaranteed for pure fluid friction at the heaviest loads."

Testing Voltol

The interesting data set forth by Mr. Heitmann has been carefully checked and demonstrated correct by several well-known German scientists, in their customary thorough manner. Prof. Dr. Gumbel, who has developed a physical constant which he calls a "thrust modulus" for determining the lubricating value of oils, delivered an interesting lecture before the Technical College at Charlottenburg on the results of his examination of Voltol. In the discussion which followed this lecture Prof. Dr.-Ing. Schlesinger stated that he had been commissioned by the owners of the process to undertake a series of experiments with Voltol upon a high-speed lathe, while at the same time similar experiments were being carried out at the Government Material-Testing Bureau, at Gross-Lichterfeld. The object of these experiments was to obtain a comparison between the lubricating ability of Voltol and an ordinary commercial machine-tool oil. The conditions under which the tests were performed was open to individual criticism from all departments of the Technical College, as was also the unrestricted choice of competitive oils. The results determined that with Voltol the following saving of power was effected:

High-Speed Lathe

Velocity of Spindle in R.P.M.	Percent Saving of Power—Lathe Running Empty	With 1 Kw. Working Load	With 2 Kw. Working Load
46	24	13	6.5
135	30	13	7.5
220	36	20	10

From the foregoing table it will be seen that when Voltol is employed as a lubricant a saving of power is attained directly proportional to the speed of the machine and inversely proportional to its load.

Conclusion

The only apparent drawback to the Voltol process lies in the electric power

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costs and the amount of equipment necessary in proportion to the volue of oil treated, thus placing a heavy overhead charge on the operation of the plant. The writer was assured that in spite of these disadvantages the process is thoroughly practical and that it is at present showing a nice net-back profit to its owners. It was further stated that as soon as the new type machines are installed the profit will easily be doubled.

The present output of the Potschapple works, without the two new voltolizers, is about 4,000 metric tons or 28,000 U. S. barrels per year, but that does not begin to satisfy the market demand for their product. During the war they made many tons of lubricants for the Germany army which were pronounced by technologists of the "high command" superior even to vegetable castor for use in the engines of aeroplanes.

As Mr. Heitmann has pointed out, Voltol is particularly suitable for the lubrication of internal combustion engines, high-pressure compressors, superheated steam cylinders, marine engines, heavily loaded ring-oiling bearings, etc., on account of its ability to remain fluid at comparatively low temperatures and yet to retain its viscosity at relatively high ones. An ordinary mineral oil at 750 Saybolt at 100 degrees Fahrenheit possesses a viscosity of only about 60 Saybolt at 210 degrees Fahrenheit. Through the voltolizing process the viscosity of such an oil may be increased over 300 per cent without in any way affecting its original pour test. For this reason Voltol should prove an important factor in future engineering development in the realm of high temperatures.

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The Westinghouse Electric & Manufacturing Co. says to its stockholders: "The phenomenal increase in the use of motor cars during the last ten years has greatly stimulated the improvement of our hignways. Today there are nearly 500,000 miles of paved highways in the United States. Yet in spite of the tremendous growth in highway construction, the investment can be fully capitalized only during daylight hours.

"The additional expenditure of just a small percentage of the cost of paving these highways would provide adequate illumination at night, with many resultant advantages. Increased safety, decreased congestion, ability to efficiently operate motor truck service, as well as the comfort of extended pleasure driving, are some of its direct benefits. The farmer could more easily transport his products to the city after his day's work and could bring his family there for recreation or shopping.

"Many of the factors which have hindered the development of highway lighting are now removed. The extension of transmission lines to rural communities for farm lighting and power service has made it economical, in many cases, for the electric service companies to furnish energy for highway lighting. The development of highway lighting units, of which your company is one of the leading manufacturers, has made it possible to illuminate long stretches of highway at a low cost."

TO DISTILL COAL

The International Combustion Engineering Corp. has contracted with the North American Co. to construct plants for low temperature distillation of coal which will greatly reduce, it is said, the fuel cost of the North American's electric power stations. The initial plant will be erected at the Lakeside plant of the Milwaukee Electric Railway and Power Co., a North American Co. subsidiary. Construction of this plant will begin at once. The new system distills the pulverized coal now used and the pulverized coke obtained will be burned under the boilers. The other by-products will be motor spirits, tar and gas.

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Detailed Operations in Eastern Fields for Month of July

EASTERN FIELDS

Summary of Completed Work

Fields—	Comp.	Prod.	Dry	Gas
Allegany	27	46	0	0
Bradford	104	256	2	0
Middle Field	13	25	3	4
Venango-Clarion	49	68	5	1
Butler-Armstrong	17	16	3	5
Southwest Pennsylvania	12	2	0	11
West Virginia	111	465	22	54
Southeast Ohio	111	830	22	16
Total July	444	1,707	57	91
Total June	436	2,225	51	95
Difference	8	518	6	4

Summary of Rigs and Wells Drilling

Fields—	Rigs	Drg.	Ttl.
Allegany	16	15	31
Bradford	20	94	114
Middle Field	1	7	8
Venango-Clarion	3	30	33
Butler-Armstrong	10	24	34
Southwest Pennsylvania	13	27	40
West Virginia	61	150	211
Southeast Ohio	41	113	154
Total July 31	165	460	625
Total June 30	159	473	632
Difference	6	13	7

ALLEGANY FIELD

Wells Completed

Hesteltine, Atwood & Stebbins 1
Potter, William Duke et al 1
Wheaton, W. A. Dusenbury et al 3
Fee, Albert Oil 5
Fee, C. O. & W. O. Taylor 2
Fee, Albert Oil ..... wtr
Norton, First Trust & Richardson 2
Fee, Empire, Ltd., et al 2
Fee, Empire Gas & Fuel, Ltd. 2
Fee, Herrick No. 7 and Bliss 2
Fee, Empire Gas & Fuel, Ltd. 1
Fee, Empire, Ltd., and Breckenridge ... 1
Fee, First Natl. Bk. of Shinglehouse... 1
Fee, E. G. Williams et al 1
Birtell & Birtell et al 2
McDermott, Wilbart Oil 5
Crandall, Wighman & Crandall 3
Fee, Charles Reeland 1
Crandall, A. L. Shaner et al 1
Crandall, A. L. Shaner et al 1
Childs, N. K. Wilson 1
Kinley Oil, W. J. Weller 1
Fee, Cady & Allen 1
Fee, Martin Bros. & Wasson 1
Fee, Lavens, Est. et al 2
Jordan, et al, Clyde Jordan et al 2
Fee, F. W. Forness 1

Wells completed 27
Production 45
Water 1

Rigs

Fee, Albert Oil.
Fee, C. O. & W. O. Taylor.
Fee, South Penn Oil.
Fee, Empire Gas & Fuel Co., Ltd.
Fee, Herrick & Bliss.
Fee, Albert Oil.
Fee, Empire Gas & Fuel, Ltd.
Fee, Empire, Ltd. and Breckenridge.
Fee, Phillips & Howard.
Fee, Rose & Perry.
Fee, R. J. Dermitt.
Fee, Charles J. Reeland.
Fee, A. H. McDonnell hrs.
Fee, J. A. Wilson.
Fee, F. W. Forness.
Fee, Martin Bros. & Wasson.

Wells Drilling

Barney & Groves, Atwood & Stebbins.
Bledsoe et al, William Duke et al.
Thornton & Agent, Albert Oil.
Read, Agent, First Nat'l Bb. of Cuba. No. 4 and Randall.
Fee, Empire, Ltd., et al.
Norton, Knights Creek Oil.
Norton, First Trust and Richardson.
Fee, Birtell et al.
Fee, Turner Oil Corp.
Jordan et al., Clyde Jordan et al.
Ferrington, Hungerford and Cuba Natl. Bk.
Childs, N. K. Wilson.
Fee, Lavens estate et al.
Wetherby, R. J. Dermitt.
Rigs, 16; wells drilling, 15; total, 31.

BRADFORD FIELD

Lawton, Shur, McSweeney & Co. 86 2
Burgess, Love, Wright et al 24 1
Burgess, Love, Wright et al 25 1
Bing, 291, Howard & McCallum 86 2
Bing, 391, George W. Bovaird 79 3
Bing, 388, C. L. Wann et al 47 2
Bing, 389, D. W. Daly 39 2
Bing, 541, Park and Bovaird 29 1
Bing, 464, R. S. Fringle 19 1
Bing, 491, Forest Oil Inc., 47 2
Bing, 423, C. W. Henretta et al 16 2
Bing, 370, C. L. Wann et al 41 1
Bing, 490, T. H. Kennedy 131 2
Bing, 490, T. H. Kennedy, 132 1
Weston Jr., tr., South Penn Oil 90..... 2
Redfield, South Penn Oil 97 1
Redfield, South Penn Oil 98 2
Rounds & Lawrence, South Penn Oil 3 ... wtr
Fee, South Penn Oil 1 ..... wtr
Fee, W. E. & W. W. Parmeter 27 2
Fee, A. W. McCandless & Sons 6 4
Fee, South Penn Oil 11 2
Rasey, Lewis Emery 17 5
Fee, Anna Jane VanTine 25 3
Clugston, Parker Farm Oil 13 2
Fee, McKean County Trust and J. C. Looker, 22 1
Willetts Estate, James W. Looker 6 ... 3
Franchot, F. M. Johnston & son 18 2
Fee, Hazlewood Oil 46 1
Franchot, T. P. Thompson 11 2
Fee, Crooks estate 13 1
Fee, Moody et al 10 1
Franchot, A. J. Crisman 9 3
Drake, Hannon Oil 5
Griffith et al, C. E. Knabb tr 4
Fee, A. W. Palmer 5
Fee, South Penn Oil 1
Fee, Mrs. Joseph T. Jones 1
Fee, Thessen & Thessen 1
Fee, Moses Sullivan 2
Bing, 184, Associated Producers 355 3
Bing, 150, South Penn Oil 61 5
Bing, 150, South Penn Oil 62 8
Fee, South Penn Oil 36 4
Fee, Willoughby & Citizens Nat. Bk. 10 5
Fee, George Gallagher 9 1
Bing, 22 Hazlewood Oil 33 5
Bing, Hazlewood Oil 104 4
Fee, South Penn Oil 93 4
Fee, Barry Estate 2
Fee, Associated Producers 204 2
Fee, Roy E. Diament 9 2
Bing, 128, Evans et al 32 4
Wilson estate, South Penn Oil 13 1
Fee, T. H. Kennedy 6 1
Bing, 533, South Penn Oil 76 4
Bing, 568, Asociated Producers 351 4
Bing, 582 Asociated Producers 352 1
Bing, 592, Associated Producers 350 ... 3
Bing, 567, Associated Producers 351 ... 3
Bing, 591, Associated Producers 346 ... 1
Murphy, Forest Oil 1
Sill, Hope Oil 8
Garlock, Denwood Oil 2
Hodge, South Penn Oil 1
Bingham, H. B. Oil 3
Pratt, Petroleum Reclamation 2
Pratt Petroleum Reclamation 3
Pratt, Petroleum Reclamation 2
Ekas, R. C. Lloyd 1
Fee, Skagg Bros. 2
Fee, B. Devlin 1
Germer, Linwood Oil 3
Chapin, Linwood Oil 3
Garlock, L. H. Smith & sons 3
Fee, L. H. Smith & Sons 1
Fee, W. J. Healy 2
Fee, R. Landers 1
Lovell, Ostrander et al 2
Mehan, Zine est 1
Hayter, J. F. Magee 3
Taylor, South Penn Oil ..... dry
Nesselson, Nesselson Bros. 5
Lincoln, L. H. Smith & Sons 5
Lincoln, L. H. Smith & Sons 3
Howard, Pressure Oil 3
Duke, Gridiron Oil 5
Borden, T. B. Wilson 6
Scio, C. A. Duke 7
Duke, Duke & Blair 8
Porter, Forest Oil 2
Porter, Forest Oil 2
Noble, Forest Oil 3
Irvine, C. E. Potter 2
Burns, A. E. Yahn 8
Burns, E. M. Daly 3
Middaugh, A. L. & L. M. Lilly 3
Baldwin, F. E. Baldwin 3
Loop, C. B. Kervin 2
Kenyon, J. Minnich 2
Borden, Jeutter Bros 2
Borden, Rapp & Schwab 2
Gray, W. B. Miller 2
Shepard, South Penn Oil ..... dry
Bingham, H. E. Camp est. 4
Bingham, J. L. Yerdon 8

Wells completed 104
Production 256
Dry 6
Water 3

MIDDLE FIELD

Traub, B. Daly 1
Homan, Chapman & Knopf 1
Lot 248, Pennsylvania Gas 897 ..... gas
Lot 248, Pennsylvania Gas 890 ..... gas
Lot 254, Pennsylvania Gas 904 ..... gas
Lot 329, Pennsylvania Gas 889 ..... gas
Schoelkopt, C. A. Carnahan 9 5
T. & W., A. E. & C. W. Tompsett 65, 66 dry
Osgood, Rembold & Co. 9 15
Minnesota, S. Q. Wilson 29 1
Weaver, D. M. Carson 12 2
King, Pequignot & Co. 14 ..... dry

Wells completed 13
Production 35
Dry 3
Gas 4

Rig

Osgood, Rembold & Co. 10.

Wells Drilling

Griffin, J. Bisker 12.
Beaver, Siggins & Helm 9.
Lot 3767, F. J. Moser 26.
Lacy, L. E. Chapman.
Rogers, F. H. Trax.
Streich, Bright Bros.
T. & W., A. E. & C. W. Tompsett 67.
Rig, 1; wells drilling, 7; total, 8.

VENANGO-CLARION

McCray, W. P. McCray 66 1
Stevenson, Midland Oil 41 1
Emery, Berry & McCray 7 2
McCalmont, C. & L. Boess Tr est 17 ... 1
Murphy, Taylor & Torrey, L. J. Kirkwood, 18 1
Button, J. B. Smithman 36 1
Fisher, F. S. & H. A. Gates 3 ..... dry
Phila. & Boston, Sibley & Hancox 4 ... 1
Ziegler, G. N. Hess & Co. 2 2
Call, L. T. Call 12 1
Blair, Reeves & Franklin tr. 42 1
Henderson, S. Y. Ramage 49 1
Surrena, C. Surrena 7 2
Irvin, L. A. Hovis & Co. 1 1
Martin, Franklin Tr. et al 22 1
Porter, E. A. Burch et al 84 2
Porter, E. A. Burch et al 85 2
Porter, E. A. Burch et al 86 2
Phila. & Boston, J. R. Gallagher 1 ... dry
Jacobs, S. P. McCalmont est. 11 1
Jacobs, S. P. McCalmont est. 12 1
Moran, D. O. & G. R. Moran 55 ..... x 2
Bissell, Hann & Bonnett 3 3
Bissell, Hann & Bonnett 4 3
Bissell, Hann & Bonnett 5 4
Venango O. & L., Venango O. & L. 217 1
Venango O. & L. Venango O. & L. 218 1
Chamebrlain, Morck Oil 68 2
Lamey, Kester & Moon 4 1
Paul & Simmons, Breene & Rhodes 36 . 1
Paul & Simmons, Breene & Rhodes 37 . 1
Paul & Simmons, Breene & Rhodes 37 . 1
Phipps, M. Phipps & Sons Co. 7..... 1
Witherup, Franklin tr. 44 1
McCray, W. P. McCray 66 1
Stevenson, Midland Oil 41 1
Furnace Tract, J. F. Helena & J. E. McLaughlin 54 1

Clarion—

French, Croutcher, Heeter et al 1 ... dry
Porter, W. F. Cropp & Co. 11 1
Porter, Wallie Oil & Gas 4 ..... dry
Hess, Alum Rock Gas 7 1
Berlin Bros., Berlin Bros. 10 ..... dry
O'Neill Bros., Alum Rock Gas 3 5
Reichner, Alum Rock Gas 1 2
Reichner, Alum Rock Gas 2 5
Black, Southern Oil 5 ..... gas
Beichner, Alum Rock Gas 4 3

Mercer—

Oakes, Wm. Bunny et al 2 1
McMullen, B. Turner & Sons 5 1

Wells completed 49
Production 68
Dry 5
Gas 1

BUTLER-ARMSTRONG

Neel hrs., Elwinger & Edeburn 2 4
Crawford, George Say 1 ..... gas
Storey, Jamison Bros. 3 3
Stein, Ryan Oil 4 1
Painter, Lang & Co. 1 ..... gas
Sasse hrs., T. W. Phillips Gas & Oil .. gas
Raisley, T. Watson & Co. 1 1
Weiland hrs., Hart, Graham & Co. 1.. dry
Logue, McGee & Co. 1 ..... dry
English, Scott & Thompson Oil 1 ..... dry
Flinner, E. H. Hutchison 2 ..... gas
Peters, J. L. Peters 1 3
Shidemantle, Gettmen, Shidemantle et al 3 2
Campbell, Hamilton, Rigney et al 4 ... 1
Griffith, E. G. Griffith 1
Reep, Rickenbrode, Bros. 1
Wick est., Chambers Oil ..... gas

Wells completed 17
Production 16
Dry 3
Gas 5

BRADFORD FIELD

Rigs

Bing, 291, Howard-McCallum 87.
Redfield, South Penn Oil 99.
Fee, South Penn Oil 2.
Fee, South Penn Oil 12.
Fee, A. W. McCandless & Sons 7.
Franchot, Thomas T. Fox 13.
Armstrong et al, J. B. Jamison 6.
Franchot, F. M. Johnston & Son 6.
Fee, Hazlewood Oil 47.
Fee, Zane Estate.
Bing, Hazlewood Oil 106, 107, 108.
Fee, W. C. Kennedy Co. 49.
Fee, George Gallagher 10
Bing, 22, Hazlewood il 34.
Bing, Associated Producers 154.
Fee, Roy E. Diament 10.
Kennedy & Clark, Phoenix Oil 158.
Bing, 582, Associated Producers 353.

Wells Drilling

Weston Jr., trustee, South Penn Oil 91.
Fee, M. C. Ruddy 16.
Jones et al, J. H. Brahaney 7.
Burns, et al, E. Daly 6.
Burns et al, Bliss Oil 27.
Fee, J. V. Golden 22.
Bing, Brink & Brink 11.
Swift, Park Estate et al 2.
Park Estate et al, E. A. Potter 29.
Fee, R. O. Landers et al 14.
Bing, D. T. Andrus et al 11.
Fee, Anna Jane VanTine 12.
Fee, E. & V. Schermerhorn 21.
Franchot, H. E. Greer 16.
Franchot, Simons & Cotton 14.
Franchot, John Jackson 17.
Franchot, Towne & Melvin 6.
Leasure, South Penn Oil.
Fee, A. W. Palmer.
Griffith et al, C. S. Knabb tr.
Fee, A. W. Palmer.
Fee, Moses Sullivan.
Fee, South Penn Oil.
Quintuple Oil, Jane Zane estate.
Fee, South Penn Oil 21.
Fee, W. C. Kennedy Co. 48.
Bing, 22 Hazlewood Oil 35.
Bing, Associated Producers 153.
Fee, South Penn Oil 94.
Fee, Hilliard & Dodge.
Kennedy & Clark, Phoenix Oil 157.
Phoenix Oil & Kennedy Holding Oil 20.
South Penn Oil, E. K. Kane 42.
Bing, 188, Harris Oil 30.
Bing, 128, Evans et al 33.
Bing, 426, Scofield & White.
Bing, 499, South Penn Oil.
Bing, 533, South Penn Oil 74, 75.
Bing, 439, South Penn Oil 86.
Bing, 538, C. P. Byron estate 29.
Bing, 590 Associated Producers 357.
Bing, 582, Associated Producers, 354.
Bing, et al South Penn il 4.
Bing, 592, P. A. Oakes & Sons 20.
Bing, 49, T. H. Kennedy 133.
Bing 423, C. W. Henretta et al 17.
Bing, 491, Forest Oil, Inc., 48.
Bing, 368, Forest Oil, Inc., 49.
Bing, 500, Daly & Healy 24.
Bing, 370, C. L. Wann et al 42.
Lawton, Galiup, Elder et al 21.
Lawton, Suhr, McSweeney & Co. 87.
Bing, 430, Lane No. 1 et al 69.
Bing, 400, J. E. Ward 17.
Bing, 381, Wilson & Fitzgibbon 72.
Mantz, L. F. Kinley et al 38.
Murphy, Forest Oil.
Sill, Hope Oil.
Garlock, Denwood Oil.
Hodge, South Penn Oil.
Bingham, H. B. Oil.
Pratt, Petroleum Reclamation (3 wells.)
Ekas, R. C. Lloyd.
Germer, Linwood Oil.
Chapin, Linwood Oil.
Garlock, L. H. Smith & Sons.
Fee, R. Landers.
Lovell, Ostrander et al.
Mehan, Zane estate.
Taylor, South Penn Oil.
Whipple, South Penn Oil.
Hayter, J. F. Magee.
Duke, Gridiron Oil.
Borden, T. B. Wilson (2 wells.)
Shepard, South Penn Oil.
Scoa, C. A. Duke.
Porter, Forest Oil (2 wells).
Noble, Forest Oil.
Irvine, C. E. Potter.
Burns, A. E. Yahn.
Burns, E. M. Daly.
Middaugm, A. L. & L. M. Lilly.
Loop, C. B. Kervin.
Kapp, T. H. Kervin Jr.
Kenyon, J. Minnich.
Gray, W. B. Miller.
Rigs, 20; wells drilling, 94; total, 114.

VENANGO-CLARION

Rigs

Hoffman, Hoffman & Exchange Bk of Franklin.
Jacobs, S. P. McCalmont estate 13.
Stewart, L. G. & I. L. Neely 2.

Wells Drilling

Stevenson, Midland Oil 42.
McCalmont et al, C. & L. Roess tr est. 18.
Murphy, Taylor & Torrey, L. J. Kirkwood 19.
Button, J. B. Smithman 37.
Johnstone, F. S. & H. A. Gates 6.
Phila. & Boston, Sibley & Hancox 5.
Ziegler, G. N. Hess 3.
McCalmont 225a, S. P. McCalmont est. 46.
Blair, Reeves & Franklin tr. 43.
Gross, H. J. Hoffman 15.
Jacobs, S. P. McCalmont estate 13.
Bissell, Haun & Bonnett 6.
Venango, O. & L. Venango O. & L. 219.
Kaverline, Joe Kaverline 23.
Toy, United Natural Gas 1 Framton O. & L., Oil City National Bank 5.
Phipps, M. Phipps Sons Co. 8.
Witherup, Franklin Trust 45.
Stevenson, Midland Oil 4.
Furnace Tract, J. F. Helena & J. E. McLaughlin 55.
Kerr, Grieff 2.

Clarion—

Wentling, V. Glass 3.
Kribbs, Wentling, Kribbs et al 2.
Williams, V. C. Dale et al 2.
Jones, Jones O. & G. 3.
McCleary, C. P. McCleary 1.
Wilson, W. W. Wilson.
Schmader, Wallie O. & G.
O'Neill Bros., Alum Rock Gas 4.
O'Neill Bros., D. & H. O'Neill 4.
Cohlheep, S. R. Lewis et al 1.
Rigs, 3; wells drilling, 30; total, 33.

BUTLER-ARMSTRONG

Rigs

Harrison hrs., Saxonburg L. & H. 1.
Criner hrs., Joseph Berry 1.
Boyle, Saxonburg, L. & H. 1.
Kamerer, Mr. and Mrs. E. R. Kamerer 1.
Shaner & Bellstein, Shaner & Co. 3.
Oesterling, Oesterling & Co. 1.
Pontius, Westerman & Pontius 4.
Goehring, McClay Bros. 1.
Boggs hrs., R. C. & W. V. Binkerd.

Wells Drilling

Bortz, Texas Oil 1.
Hays, Larkin, Jones et al 5.
Turner hrs., Rogers & Boyer 1.
Shannon, Standard Plate Glass 1.
Bish, Bish & Co. 3.
Crawford, Starr & Co. 1.
Bruner, Rabbitt & Hilderbrand 1.
McGinley, Ravenwood Oil 3.
Ritzert Bros., Ritzert Bros. 1.
McCarren, Lang & Co. 4.
Shaner, M. B. Finnessy 16.
Pyle, E. H. Pyle et al 5.
Donnelly, Bear Creek Oil.
Jenkins, John Bros. et al.
King, H. C. King 18.
Beichner, Beichner 1.
Cumberland, Campbell & Sherwin 2.
Campbell, Rankin, Campbell et al 8.
Christy, T. N. Smith 1.
Coffin, P. C. Bell et al 1.
McKinney, G. F. Hovis et al 4.
Bell, T. P. Bell 2.
Hilliard, Carl Hilliard 1.
Logus, Sherwin, Morrison et al 1.
Rigs, 10; wells drilling, 24; total, 34.

SOUTHWEST PENNSYLVANIA

Wells Completed

Washington County—

Myers, James Lyle 3..... gas
McConnell heirs, Lewis & Co. 1..... gas
Hood, Coulter & Dunn 1..... gas
Wilson, New Oil & Gas Co. 12..... gas

Allegheny County—

Beverage, Wildwood Oil Co. 1..... gas
Hoffman, C. Scott & Co. 2..... gas
Shenot, Walters & Co. 1..... gas

Beaver County—

Ehrman, Black Bros. & Co. 2..... 3

Greene County—

Nichols, Mrs. L. & H. Co. 2..... gas
Renner, Dunn Mar. O. & Gas Co. 1... gas
Dav, Carnegie Gas Co. 1..... gas
McCracken, local parties 1..... gas

Wells completed 12
Production 2
Gas 11

WASHINGTON COUNTY

Rig

Bidellion, Day & Bungard 1.

Wells Drilling

Thome, Robert Hayes & Co. 1.
Quail Sisters, E. H. Tague & Co. 1.
Haslett, Mfrs. L. & H. Co. 2

ALLEGHENY COUNTY

Rigs

Straub, American N. G. Co. 2.
Wise, Martin & Co. 1.
Bauerline heirs, Robison & Co. 2.
Deets, McAvoy & Co. 1.
Poff, Parker & Co. 3.

Wells Drilling

Nichol, S. D. Robinson 4.
King, Walley & Hahn 1.

GREENE COUNTY

Rigs

Pethel, Phila. Oil Co. 1.
Garard, J. L. Garard 24.
Kent, Peoples Gas Co. 1.
Caseman, Caseman O. & G. Co. 1.
Behm, Carnegie Gas Co. 1.
Day, Carnegie Gas Co. 2.
Andrews, N. & Co. O. & G. Co. 5.

Wells Drilling

South, Fred Garrison 1.
Williamson, Fred Garrison 1.
Fox, Peoples Gas Co. 1.
Folley, McDermott Oil Co. 1.
Wise, Moore-Tex Oil Co. 1.
E. Fox, Peoples Gas Co. 1.
Toothman, Carnegie Gas Co. 1.
Headlee, Hyland O. & G. Co. 1.
Cowell, Phila. Oil Co. 1.
Tanner, Carnegie Gas Co. 3.
Bell, Ray Clovis & Co. 1.
Caseman, Hope C. & R. Co. 2.
Riggs, Kennedy Bros. & Co. 1.
Tharp, McCracken & Co. 1.
Phillips, Snider & Co. 1.
Johnson, Carnegie Gas Co. 1.
Spragg, Carnegie Gas Co. 1.
Rutan, N. G. Co. of W. Va. 2.
Funk, Tague & Cummins 1.
T. Anderson, Consumers Fuel Co. 1.
Phillips, Mfrs. L. & H. Co. 1.

Reese, Elliott Moore & Co. 1.
Rigs, 13; wells drilling, 27; total, 46.

WEST VIRGINIA

Wells Completed

Lewis County—
Hughes, Reserve Gas Co. 1 ..... gas
Law, Pgh. & W. Va. G. Co. ..... dry
Harrison County—
Harbert, Hope Gas Co. 1 ..... dry
Hannah, Hampton O. & G. Co. 2 ..... gas
Lowndes, R. T. Lowndes 1 ..... gas
Lewis, Grascelli Chem. Co. 1 ..... dry
Patton, Clarksburg L. & H. Co. 1 ..... gas
Marion County—
Price, S. P. O. Co. 5 ..... gas
Toothman, Owens B. & M. Co. 1 ..... gas
Collins, Owens B. & M. Co. 1 5
Stevens heirs, S. P. O. Co. 2 ..... dry
Wetzel and Tyler Counties—
Burley-Evans, Mfrs. L. & H. Co. 14 ... dry
Evans, Mfrs. L. & H. Co. 1 2
Wade, Mfrs. L. & H. Co. 1 35
Kyle, Amer. O. D. Co. 14 3
Merritt, Hope C. & R. Co. 2 ..... gas
Tennant heirs, Hope Gas Co. 2 ..... gas
Morgan, Rawe Bros. 2 ..... dry
E. Morgan, Mfrs. L. & H. Co. 5 ..... dry
Wade, Silver Hill Oil Co. 2 ..... gas
Morgan-Henderson, Little Flower Oil Co. 3 100
Anderson, Carnegie Gas Co. 1 ..... gas
Jemison, Shepard & Co. 1 ..... gas
Miller, Hope C. & R. Co. 1 5
Marshall County—
Schenk, Tilby & Oliver 1 ..... gas
Markey, Decem Dev. Co. 6 5
Riley heirs, Wasmuth Kallahan O. Co. 4 10
Blake, Lynn Camp Oil & Gas Co. 1 .. 15
Gehorn, Hope Gas Co. 1 ..... gas
Yoho, Hope Gas Co. 1 ..... gas
Blake, Mrfs. L. & H. Co. 2 2
Doddridge County—
Hudkins, I. O. & G. P. Co. 12 20
Ross, I. O. & G. P. Co. 15 15
Waldo, Nay & Dotson 1 10
Rollins, Murphy Oil Co. 2 15
Douglass, Hope C. & R. Co. 1 10
Drainer, G. B. Travis 2 2
Smith, Clifton Oil & Gas Co. 5 20
Freeman, Trainer Bros. 1 40
Dotson, Roy Shinn 1 ..... dry
Ritchie County—
Summerville, Hope Gas Co. 1 ..... gas
Hudkins, Hope Gas Co. 1 ..... gas
Brissy, McCall & Co. 1 ..... gas
Dearman, Dearman & Co. 1 4
Gambrill, E. E. Pope 7 1
Haymond heirs, Premier Glass Co. 5.. dry
Shields, Del. River Oil Co. 2 ..... dry
Hardbarger, Hardbarger & Elder 2 2
Cain, Mellon Bros. 2 ..... gas
Gilmer County—
Tierney, Jas. Tierney 3 2
Woofter, Pgh. & W. Va. Gas Co. 1 ..... dry
Osborne, Carter Oil Co. 1 1
Wirt County—
Gibson, G. V. Vance 43 2
Vandevender, W. C. Patterson 15 2
Wood County—
Drain heirs, Henderson Oil Co. 3 5
AcAtee, C. S. Smith 5 ..... dry
Ashby, Reed & Co. 1 ..... dry
Johnston, Bowser, Ekas & Co. 1 3
Volcanic tract, Power Oil Co. 107 1
Pleasants County—
Wagner, Bottom Oil Co. 3 ..... dry
H. Wagner, Monongalia Oil Co. 1 ..... gas
Wagner, Bottom Oil Co. 2 ..... dry
H. Wagner, Monongalia Oil Co. 1 ..... gas
Montooth, Brown & Co. 1 15
Peters, Rice Oil Co. 1 ..... dry
Shingleton, Neely Oil Co. 1 ..... dry
Ambler Bros. Bailey Gas Co. 4 ..... dry
Hall, G. B. White & Co. 1 ..... gas
Bradford, Rice Oil & Gas Co. 2 ..... dry
Roane County—
Morford, Carter Oil Co. 1 1
Calhoun County—
Amos, M. F. Crowley 2 ..... gas
Ritchie, Southern Oil So. 19 ..... gas
Keith, Hope Gas Co. 1 ..... gas
Lincoln County—
Smith, Transylvania Pet. Co. 1 ..... gas
Miller, Grant Gas Co. 1 ..... gas
Sweetland, David Fox 1 ..... gas
Sweetland, L. R. Sweetland 5 ..... gas
Vickers heirs, Col. G. & E. Co. 1 ..... gas
May, Roy & Osborne 1 ..... gas
Pike heirs, Tampico Oil & Gas Co. 4 ... gas
Billips, Grant Gas Co. 1 ..... gas
May, Huntington Gas Co. 1 ..... gas
J. May, Osborne & May 1 ..... gas
Clay County—
Casto, Virginia G. & O. Co. 3 30
Kanawha County—
Cart, U. F. G. Co. 1 ..... gas
Vickers, Col. Carbon C. 8 ..... gas
Vickers, Col. Carbon C. 9 ..... gas
Paint Creek Ter. lot, Col. Carbon C. 1.. gas
Ward heirs, Cabin Creek G. Co. 58 .... gas
Ward heirs, Cabin Creek G. Co. 59 .... dry
Pratt lot, C. C. Wolfe 1 ..... gas
Bingman lot, Earle Cameron 1 ..... gas
Moore lot, Earle Cameron 1 ..... gas
Frazier lot, Montgomery Gas Co. 1 ..... gas
Patterson lot, Roy & McComas 1 ..... gas
Holt lot, Dego Gas Co. 1 ..... gas
Boone County—
L. R. & P. tract B, Pure Oil Co. 16.... 35
Bull Creek C. & L. Co., Owens B. & M. Co 3 ..... gas
Cassingham & Co., Owens B. & M. Co. 3 ..... gas
Bedford Corp., So. P. O. Co. 1 ..... gas
Putnam County—
Davis lot, W. H. Kirtley & Co. 1 ..... dry
Eggleston lot, Ohio Fuel Oil Co. 1 6
Pine lot, C. C. Wolfe & Co. 1 20
G. Pine lot, C. & D. Gas Co. 1 25
Cabell County—
Roberts, Harshbarger Oil & Gas Co. 4 gas
Logan County—
Yawkey & Freeman, So. P. O. Co. 6 ... dry
Yawkey & Freeman, So. P. O. Co. 9 .. gas
Yawkey & Freeman, So. P. O. Co. 13 .. gas
Yawkey & Freeman, So. P. O. Co. 14 .. gas
Dingess Run C. Co., Wacatock O. & G. Co. 11 ..... gas
WAYNE COUNTY
Calfee, Chartiers Oil Co. 1 ..... dry
Ferguson heirs, Westover O. & G. Co. 9 gas

Wells completed	111
Production	465
Dry	22
Gas	54

LEWIS COUNTY
Rigs
Lawson, Roy Horner 2.
Cunningham, Mud Lick O. & G. Co. 1.
Davis, Carnegie Gas Co. 1.
Bott, Mud Lick O. & G. Co. 1.
Simons, So. P. O. Co. 7.
Wells Drilling
Conner heirs, West Fork O. & G. Co. 1.
Rhodes, Hope Gas Co. 2.
Rittenhouse, Carnegie Gas Co. 1.
West, Bush & Co. 1.

HARRISON COUNTY
Rig
Coyner, Reserve Gas Co. 1.
Wells Drilling
Harbert, Hope Gas Co. 1.
Benedum, Salem Oil Co. 3.
Swiger, Raccoon Gas Co. 1.
Smith Bros., Reserve Gas Co. 1.
Reynolds, Reserve Gas Co. 1.
Simons, Hope Gas Co. 1.
Maxwell, Hope Gas Co. 1.

PRESTON COUNTY
Gordon, Hope Gas Co. 1.

MARION COUNTY
Rigs
Freeland, Owens B. & M. Co. 1.
Miller Tennant, So. P. O. Co. 1.
Wells Drilling
Beaty, So. P. O. Co. 19.
Davis, Owens B. & M. Co. 1.
Fleming heirs, Morgantown Oil Co. 1.
Michael, Carnegie Gas Co. 2.
Snider, Clifton O. & G. Co. 1.

MONONGALIA COUNTY
Wells Drilling
White, Mfrs. L. & H. Co. 3.
Six, Clovis & Co. 1.
Tennant, Mfrs. L. & H. Co. 1.
Youst, Mfrs. L. & H. So. 1.
Shuman, C. M. Simpson 2.
Tennant, So. P. O. Co. 11.
A. Tennant, So. P. O. Co. 11.
Tennant-Clark, So. P. O. Co. 1.
Varner heirs, Dunn Mar O. & G. Co. 17.
Knutti, Cummins & Thomas 1.

WETZEL AND TYLER COUNTIES
Rigs
Antill, John Gas Co. 1.
Little & Co., John Gas Co. 1.
Aberirg, Carnegie Gas Co. 6.
Bissett heirs, Carnegie Gas Co. 1.
Ritter, Hope C. & R. Co. 2.
Eddy, McIntyre Bros. Oil Co. 1.
Williamson, R. Sanders 1.
McGinnis, H. L. Lamber 1.
Galloway, A. S. McCullough 1.
Wells Drilling
Allen, Amer. O. D. Co. 4.
Mason, Wiser Oil Co. 1.
Morgan, W. Va. Consolidated Oil Co. 3.
Hawker, Rosenbloom Bros. 1.
Yeater, Hope C. & R. Co. 1.
Yeater, Hope Gas Co. 1.
Mace, Carnegie Gas Co. 1.
Wood heirs, Myers O. & G. Co. 1.

MARSHALL COUNTY
Rig
Kellar, Mfrs. L. & H. Co. 5.
Wells Drilling
Conaway, Carnegie Gas Co. 5.
McCluskey heirs, Waynesburg Gas Co. 1.
Schenk, Mfrs. L. & H. Co. 3.
Robertson, Wasmuth & Callahan 22.
Kemp, Hope Gas Co. 1.
Stern, Hope Gas Co. 1.
Burge, Mfrs. L. & H. Co. 2.
Higgins, Mfrs. L. & H. Co. 1.
McCracken, P. O. M. & B. Co. 1.
Richmond, Hope Gas Co. 1.

DODDRIDGE COUNTY
Rigs
Rowland, Murphy Oil Co. 5.
Burbridge, Gribble & C.o 2.
Kelley, Trainer & Travis 2.
Ash, Keystone Oil Co. 1.
R. J. Ash, Carter Oil Co. 2.
Wells Drilling
Hufford, Carter Oil Co. 2.
Williams, Nay & Kintzer 2.
Smith, Boyce & Dotson 2.
Rowland, Murphy Oil Co. 3.
Netzer, C. H. Pigott 3.
Henry, C. H. Pigott 2.
Maxwell, Col. Carbon Co. 55.
Burbridge, Maxwell & Henderron 1.
Ahouse, Geo. Ahouse 4.
Freeman, Clifton O. & G. Co. 8.
Smith, Carter Oil Co. 5.
Hudson heirs, Continental O. & G. Co. 3.
Farris, R. S. Monroe 4.

RITCHIE COUNTY
Rigs
Conrad, Braden & Britton 1.
Maxwell, Luck Day O. & G. Co. 1.
Donnelly, E. E. Pope 1.
Lauger, Hope C. & R. Co. 1.
McCosh heirs, Wilson & Co. 1.
W. Va. Tract, Whirwood Oil Co. 29.
Mason, F. H. McDonaugh 1.
Ferrell, Ferrell Farm Oil Co. 5.
Conaway-Patton, Mellon Bros. 3.
Scott, Southern Oil Co. 1.
Connelly, Hope Gas Co. 1.
Cunningham, Leroy Oil Co .2.
Wells Drilling
Tate, Carnegie Gas Co. 1.
Lowther, D. C. Lynch 1.
Kemp, E. E. Pope 2.
Haught, So. P. O. Co. 1.
Howell, Moore & Co. 1.
Rector, Rector Bros. 2.
Jonas, Coss & Co. 3.
McGinnis, H. P. McGinnis 2.
Law, W. Va. H. & L. Co. 5.
Ross, L. Rinehart & Co. 1.
Lowther, So. P. O. Co. 4.
Payne, French & Co. 1.
Poynter, H. L. Lamber 1.
Hanshaw, W. C. McBride 17.

GILMER COUNTY
Rigs
Minnie, Hope V. & R. Co. 2.
Walters heirs, McIntosh Oil Co. 1.
Wells Drilling
Weaver heirs, Phila. Oil Co. 2.
Curry, O. F. O. Co. 1.

WOOD COUNTY
Rigs
Uhl, H. H. Uhl & Co. 1.
Pope, E. E. Pope 2.
Volcanic Tract, Power Oil Co. 108, 109.
Grant, So. P. O. Co. 16.
King, So. P. O. Co. 10.
Wells Drilling
Minnie, Bennett & Co. 1.
Newbank, So. P. O. Co. 9.
Pease, Dunfee & Cecil 1.

PLEASANT COUNTY
Rig
Lamp, Neeley & Co. 5.
Wells Drilling
Newland, White & Casper 1.
Feesimple, M. C. Martin, Jr., 5.
Smith, Dinsmoore & Co. 10.
Watson, Walnut Run Oil Co. 10.

ROANE COUNTY
Rig
Larch, O. F. O. Co. 19.
Wells Drilling
Arnett, G. L. Cabot 1.
Harless G. L. Cabot 1.
Meadows heirs, Carter Oil Co. 1.
Hanger, McIntosh & Miller 2.
Warren, Heck Oil Co. 2.
Davis, Heck Oil Co. 5.
Young, Richardson & Co. 1.

CALHOUN COUNTY
Rigs
Pettitt, Thos. Crowley 1.
Bell, Hope C. & R. Co. 1.
McCoy, Marting Crowley 1.
Richards, Chemical Oil Co. 1.
Scott, G. L. Cabot 1.
Bourn, Hope C. & R. Co. 2.
Wells Drilling
Wilson, Hope C. & R. Co. 1.
Bennett, Hope Gas Co. 2.
Stump heirs, Bickle Bros. 5.
Miller heirs, Chemical Oil Co. 3.
Dye, Hope C. & R. Co. 5.

JACKSON COUNTY
Well Drilling
McCoy, Henderron Oil Co. 1.

LINCOLN COUNTY
Rigs
Adkins, Orlando O. & G. Co. 3.
May, Osborne & May 2.
Wells Drilling
Adkins, Roy & McComas 2.
Miller, Grant Gas Co. 2.
Sweetland, David Fox 6.
Meed, Maul Lot O. & G. Co. 1.
Baker heirs, Baker Bros. 3.
May, Kingrey Gas Co. 1.
Barrett, Foote & G. Co. 1.
Pike heirs, Tampico O. & G. Co. 5.
Pullen, Roy & McComas 1.

CLAY COUNTY
Rigs
Casto, 260 acres, Virginia G. & O. Co. 4, 5, 6.
Casto, 220 acres, Virginia G. & O. Co. 2.
Stockley, So. P. O. Co. 1.
Well Drilling
Craig & Sons, Eastern Carbon Black Co. 8.

KANAWHA COUNTY
Rig
Roane Land Co., Allegheny O. & G. Co. 2.
Wells Drilling
Duval, Superior Oil Co. 4.
Updegraff, U. F. G. Co. 1.
Combs, U. F. G. Co. 1.
Grubbs, U. F. G. Co. 1.
Halstead, U. F. G. Co. 2.
Dodd, So. P. O. Co. 1.
Withrow, Oakland Dev. Co. 2.
Vickers, Col. Carbon Co. 7.
Ward heirs, Cabin Creek Gas Co. 54.
Veasey lot, Ohio F. O. Co. 1.
Veasey lot, E. Cameron 1.
Veasey lot, Mullins Gas Co. 1.
Veasey lot, Veasey Fuel Co. 1.
Nugent lot, C. S. Halstead 1.
Ferrell lot, Fincastle O. & G. Co. 1.
R. F. Ferrell lot, G. W. Vanhorn 1.

BOONE COUNTY
Rig
Inville, Owens B. & M. Co. 1.
Wells Drilling
Williams Coal Co., Pure Oil Co. 203, 211.
L. R. & P. Tract, Pure Oil Co. 25.
Coal River M. Co., Owens B. & M. Co. 24.
Lenning heirs, Owens B. & M. Co. 1.
Cassingham & Co., Owens B. & M. Co. 9.
Perry, Owens B. & M. Co. 2.
Stollings, Carter Oil Co. 1.
Yawkey-Freeman, So. P. O. Co. 18.

PUTNAM COUNTY
Rig
Neddings, C. & D. N. G. Co. 1.
Wells Drilling
Frazier, Kirtley & Co. 2.
G. Pine lot, C. D. N. G. Co. 2.
Hall, C. D. N. G. Co. 2.
Murray lot, J. H. Trowbridge 1.
Swindler lot, Anchor Oil Co. 1.

CABELL COUNTY
Wells Drilling
Jordan, Harshbarger O. & G. Co. 2.
McCoy, Aetna O. & G. Co. 1.
Swann heirs, Commercial Gas Co. 1.
Armstrong, Shipe & Co. 1.

MINGO COUNTY
Wells Drilling
Logan C. C. Co., Public Gas Corp. 15.
Neighbert heirs, Public Gas Corp. 5.
Closterman estate, Public Gas Corp. 9.
United Tucker Oil Co., Pure Oil Co. 2.

LOGAN COUNTY
Rig
Dingess Run Coal Co., Wactoc O. & G. Co. 7.
Wells Drilling
Yawkey-Freeman, So. P. O. Co. 12, 15, 17.
Guyan Mercantile Co., So. P. O. Co. 1.
Chambers, Wacotoc O. & G. Co. 1.
Cole-Crane, Zonheimer & Gibbs 3.
Cole-Crane, Carter Oil Co. 3.

WAYNE COUNTY
Wells Drilling
Barbour, Dalton & Co. 1.
Ferguson heirs, Westover O. & G. Co. 10.
Rigs, 61; wells drilling, 150; total, 211.

SOUTHEASTERN OHIO

MONROE COUNTY

Well Completed
Dillon, Stoffle & Co. 1 1

PERRY COUNTY
Ketcham, Kellar & Marshall 2 1
Work, Thompson & Co. 6 10
Butts, Leonard O. & G. Co. 2 15

HOCKING COUNTY
Brimner, Gordoan & Co. 2 10
Mowery, Carter Oil Co. 2 10
Hoskins, Ohio Falls O. & G. Co. 3 3
Tucker, Old-Town O. & G. Co. 1 ..... gas
Tucker, Old-Town O. & G. Co. 2 ..... gas
H. V. P. Co., Charties Oil Co. 195 3
Sunday Creek Coal Co., Sunday Creek oal Co. 127 25

HOLMES COUNTY
Waltman, Empire G. & F. Co. 1 15
Pyers, Empire G. & F. Co. 1 ..... dry
House, East Ohio Gas Co. 1 ..... dry
Patterson, Ark. Fuel Oil Co. 1 3
McCullough, Ohio Oil Co. 1 ..... dry
Bridges, Empire G. & F. Co. 1 25
J. Uhl, East Ohio Gas Co. 4 10
W. H. Uhl, East Ohio Gas Co. 3 20
McCullough, East Ohio Gas Co. 2 ..... gas
Anderson, East Ohio Gas Co. 4 30
Miller, Pure Oil Co. 1 20

TUSCARAWAS COUNTY
Cline, Logan Gas Co. 1 ..... dry
Licking County—
Seward, Perry Oil Co 5 85
Bland, Arkansas Fuel Oil Co. 2 2
Bowser, Midland Oil Co. 4 ..... gas
Cooperrider, Midland Oil Co 9 2
Cooperrider, Midland Oil Co. 1 2
Mohler, Empire O. & G. Co. 2 ..... gas
Starkey, Mideast Oil Co. 3 ..... gas
Stair, Edmonds & Co. 6 3
Weiss, Benbow & Co. 4 3
J. Weiss, Rugg & Co. 9 4
Wilkins, F. Denbow & Co. 1 ..... dry
McKinney, James Reed 18 2
Boyd Leonard O. & G. Co. 1 ..... gas
Michael, Pure Oil Co. 1 35
Phillips, E. H. Everett Co. 1 65
Smith, Ralph Bros. 13 4
Cutridge, Bishp & Hazlett 4 2
Owens, A. H. Heisey Co. 4 ..... gas
Owens, Ohio Fuel Corp. 4 ..... gas
Bounds, Spindler & Donalson 13 4
Vandenbark, Carter Oil Co. 5 120
Hanover Brick Co. Carter Oil Co. 1 .. 20
Fairfield County—
Kimber, Kimber O. & G. Co. 1 5
Faher, Pure Oil Co. 1 ..... dry
Morgan County—
Crider County, Dailey Oil Co. 6 5
Crider, Dailey Oil Co. 7 ..... gas
Swytser, Sun Oil Co. 9 25
Hughes, Pure Oil Co. 1 30
Fye, Pure Oil Co. 3 15
Fisher, Pure Oil Co. 2 10
Schneider, Worley Oil Co. 2 ..... dry
Pletcher, Wilber Swingle Co. 2 ..... gas
Kimble, A. T. Smith 1 1
Kimble, A. T. Smith 2 2
Denbow, Kellar & Co. 15 2
Muskingum County—
Michael, A. H. Heisey Co. 1 45
Coshocton County—
Crawford, Pure Oil Co. 8
Worthington, Metcalf & Co. 4 2
Noble County—
MoBride, Warren Bros. & Co. 1 3
Ogle, Briggs & Co. 3 ..... dry
Philpot Myers, Thomas & Co. 1 ..... gas
Harper, Patton & Co. 1 ..... gas
L. Harper, Patton & Co. 1 ..... gas
M. Harper, Hesson & Co. 5 ..... dry
Merny, J. H. Yerain & Co. 2 ..... dry
Nau, Frank Nau & Co. 9 ..... dry
Moreland, H. H. Mosley & Co. 4 1
Smith, L. Dimmerling & Co 1 1
Dimmerling, Felix Gerst & Co. 10 1
Stadt, Speary & Speary 7 ..... dry
Bettinger, Speary & Speary 7 ..... dry
Huffman, Hackett & Metcalf 11 ..... dry
Meigs County—
Jidin, Hovis & Co. 2 5
Hamm, Pure Oil Co. 1 6
Krider, Pomeroy Bend Gas Co. 3 4
Athens County—
Baker, Pure Oil Co. 1 ..... dry
Murphy, Southern Oil Co. 3 10
Biddle, Biddle Oil Co. 5 2
Woods, Graham & Co. 1 25
Knox County—
Carson, Wm. Carson 4 4
Houger, A. J. Weidsman 1 2
Snively, Rocky River Oil Co. 10 2
Snively, Rocky River Oil Co. 11 2
W. Snively, East Ohio P. & R. Co. 15.. 3
Beck, East Ohio P. & R. Co. 6 1
Washington County—
Little, Kesselring & Co. 17 1
Dana, Reckard & Co. 8 2
Scott, Erb & Co. 5 ..... dry
Thurman, C. & M. Pet. Co. 2 2
Barnes, E. Stephens 2 2
Close, Parkersburg Oil Co. 4 2
Hupp-Munce, Beason Athey 8 15
Schmidt, Wiper & Co. 1 2
Henneman, E. A. Metcalf 1 ..... dry
Wharff, Wiper & Co. 1 ..... dry
Driscoll, J. T. Dillon & Co. 34 1
Wolfert, Heister & Co. 12 ..... dry
Mosser, Henning & Co. 7 2
Mosser, Henning & Co. 8 4
Felton, River Gas Co. 4 ..... dry
Broks, Schneider & Co. 1 ..... gas
Jefferson County—
Criswell, Needles & Co. 7 ..... gas
Cox, Burns & Co. 1 ..... dry
Vermillion, Maurer & Co. 1 ..... dry
Fell hrs. Peters & Heath 1 ..... dry
Harrison County—
Anderson, Cadiz Gas Co. 1 ..... dry
Belmont County—
Walters, Bens Run Oil Co. 1 15
Hardesty hrs. Carnegie O. & G. Co. 2... 1

Wells completed	111
Production	830
Dry	22
Gas	16

MONROE COUNTY
Wells Drilling
Knowlton, Hill & Co. 1.
Holtschlaw, Cooper, Ward & Co. 1.

PERRY COUNTY
Rig
Trimmer, Ohio Fuel Corp. 3.
Wells Drilling
Gardner-Ellis, Perry Pet. Co. 4.
Sunday C. C. Co., Sunday C'k C. Co. 129.
White, Cline Bros. 4.
Vansickle, Carter Oil Co. 1.
Cochensparger, Carter Oil Co. 2.

HOCKING COUNTY
Rigs
Rauber, Preston Oil Co. 2.
Webb, Carter Oil Co. 1.
Webb hrs. Webb O. & G. Co. 1.
Wells Drilling
Stone, Gordon Oil Co. 4.
Stone, George Anthony 1.
O'Connell, Ohio Fuel Corp. 1.
Aker hrs. Murray City & G. Co. 1.
Lowe, Dodge O. & G. Co. 1.
Starr, Kurchick Oil Co. 2.
Thomas, Griffin Prod. Co. 5.
Nutter, Oldtown O. & Gas Co. 1.
H. V. P. Co., Chartiers Oil Co. 196.
Cobb-Bradley, A. H. Squire 13.
Hocking Fuel C. Co., Walters & Co. 2.
Sunday C'k. C. Co., Sunday C'k C. Co. 128.
N. F. P. Co., Evans O. & G. Co. 4.
Bradshear hrs. Kelch & Co. 1.
Sthall, Ohio Fuel Corp. 1.

HOLMES COUNTY
Rigs
Carpenter, Empire G. & F. Co. 1.
Smith, Empire G. & F. Co. 3.
Finley, East Ohio Gas Co. 1.
Sowash, East Ohio Gas Co. 3.
Smith, Pure Oil Co. 1.
Miller, Pure Oil Co. 4.
Wells Drilling
Shrimplin hrs., Empire G. & F. Co. 1.
Middaugh, East Ohio Gas Co. 1.
Martin, Empire G. & F. Co. 1.
Davenport, Empire G. & F. Co. 1.
Bell, Ohio Fuel Gas Co. 1.
Uhl, Ohio Fuel Gas Co. 4.
Sterling, East Ohio Gas Co. 2.
Snider, East Ohio Gas Co. 1.
Forgy, East Ohio Gas Co. 4.
Hudnut, Cline, Extine & Co. 1.
Kendall, East Ohio Gas Co. 2.

Marquis, Pure Oil Co. 2.

LICKING COUNTY
Rigs

Bogle, Midland Oil Co. 1.
Watts, Carter Oil Co. 5.
Delong, J. T. Bebout 1.
McCullough, Carter Oil Co. 1.
Crooks, Pure Oil Co. 2.
Tilton, Pure Oil Co. 1.
Vandenbark, Carter Oil Co. 6.

Wells Drilling

Seward, Pure Oil Co. 4.
Crawford, Whitehill & Co. 2.
Romine, E. H. Everett Co. 2.
Williams, Pure Oil Co. 1.
Gutridge, Pure Oil Co. 1.
G. W. Gutridge, Carter Oil Co. 1.
Melick Bros. Atha Oil Co. 11.
Burgers, Flint Ridge O. & G. Co. 2.
Cooperrider, Empire O. & G. Co. 1.
Brown, Carter Oil Co. 1.
Willis, Rugg & Co. 8.
McKinney, Jones & Russ 19.
Montgomery, E. H. Everett Co. 4.
Stevens, Moore & Adams 14.
Motherspaw, Saltzgaber, Son & Co. 8.
Kiger, Ohio Fuel Corp. 1.
Vandenbark, Carter Oil Co. 7.
Porter, E. H. Everett Co. 3.
Romine, E. H. Everett Co. 2.
Vance, Wehrle Bros. 4.
Smith, Wehrle Bros. 3.
Smith-Wareham, Wehrle Bros. 1.
McDonald, Wehrle Bros. 1.

FAIRFIELD COUNTY
Wells Drilling

McCandlish, Ohio Fuel Corp. 1.
Groff, Hufford & Co. 1.
Purvis, Carter Oil Co. 5.

GUERNEY COUNTY
Rigs

Hutcheson, Ohio Fuel Gas Co. 1.
Williams, Ohio Fuel Gas Co. 1.
Clark, Ohio Fuel Gas Co. 1.
Oliver, Logan Gas Co. 1.
Keith, Keith Bros. 1.

Well Drilling

Burress, Eastern C. B. Co. 1.

MUSKINGUM COUNTY
Rigs

Hudson, Carter Oil Co. 1.
Finley, Carter Oil Co. 4.
Dutro, Carter Oil Co. 1.

Wells Drilling

Mason, Sun Oil Co. 1.
Haney, local parties. 1.
E. Ashcraft, Pure Oil Co. 1.
J. Ashcraft, Pure Oil Co. 2.

COSHOCTON COUNTY
Rigs

Wolfert, Spindler, Conaldson & Co. 4.
McKee, Spindler, Conaldson & Co. 4.
Carpenter, Pure Oil Co. 3.
Fair, Ohio Oil Co. 13, 14.

Wells Drilling

Blair, Carter Oil Co. 1.
Blair, Leonard O. & G. Co. 2.
Norris, Leonard O. & G. Co. 2.

MORGAN COUNTY
Rigs

Swytzer, Sun Oil Co. 10.
Bush, Pure Oil Co. 3.
Neicewanner, Pure Oil Co. 3.

Wells Drilling

Lovell, Dunn & Burns 18.
Smith, Sun Oil Co. 1.
Fye, Pure Oil Co. 2.
I. Smith, Pure Oil Co. 4.
Christman, Pure Oil Co. 5.
Stoneburner, Ark. O. & G. Co. 2.
Fletcher, Swingle & Co. 3.

NOBLE COUNTY
Wells Drilling

Walters, W. & N. O. & G. Co. 1.
Wescott, Stephens & Co. 1.
Kirkbride, Amer. Gas. Co. 1.
Williams, Herds O. & G. Co. 13.
Marsh, Marsh Oil Co. 2.

MEIGS COUNTY
Rigs

Williams, Ohio Fuel Corp. 2.
Spencer, Ohio Fuel Corp 1.

Wells Drilling

Lott, Pomeroy Bend G. Co. 1.
Krider, Pomeroy Bend G. Co. 4.
Jividen, R. G. Fillespie 1.
Singer, Meigs & Summers 1.
Burke, Jupiter Oil Co. 1.

ATHENS COUNTY
Wells Drilling

Higgins, Gross & Co. 3.
Cadin, Pure Oil Co. 3.
Earhar, Walkins O. & G. Co. 1.
Jones, Watkins & Co. 1.
Louther, Stewart O. & G. Co. 1.

KNOX COUNTY
Rigs

Carson, Carson & Co. 2.
Hibbitts, Pure Oil Co. 1.
Cann, Pure Oil Co. 1.
Stringfellow, Pure Oil Co. 1.
Beck, East Ohio P. & R. Co. 7.

Wells Drilling

Hardesty, Ark. O. & G. Co. 2.
Scott, Ark. F. O. Co. 5.
Heaton, Pure Oil Co. 1.

WASHINGTON COUNTY
Rig

Dana, Reckard & Co. 9.

Wells Drilling

Cunningham, Cunningham & Co. 2.
Rhodes, Harris Drilling Co. 1.
Lowe, Lowe & Co. 2.
Hall, Carter Oil Co. 2.
Johnson, Yeager, trustee, 2.
Webacher, Whiten Oil Co. 1.
Wagner, Wagner & Co. 5.
Plumer hrs. Crescent Prod Co. 34.
Wolfert, Meister & Co. 13.
Holshu, S. C. Turner 7.
Ward, Oneida Pet. Co. 3.
Wickens, Dillon & Co. 26.

JEFFERSON COUNTY
Wells Drilling

McCullough Bros. Featner & Co. 2.
Glenn, Boyce & Boyce 13.
McCorkle hrs. Boyce & Boyce 1.

CARROLL COUNTY
Wells Drilling

Albaugh, Louden & G. C. 3.
Long, Mark Miller 3.

COLUMBIANA COUNTY
Wells Drilling

Fetters, Benninghoff & Co. 13.
Klopenstein, W. A. Baker 2.
Weaver, Renner-Deibel O. & G. Co. 19.
Rigs, 41; wells drilling, 113; total, 154.

LIMA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	11	89	4	0	0	12	12
Hancock	7	59	0	0	2	6	8
Allen	6	44	0	0	0	8	8
Auglaize	5	46	1	0	0	7	7
Sandusky	6	30	0	0	0	3	3
Mercer	8	72	2	0	0	11	11
Van Wert	1	10	0	0	2	4	6
Seneca	1	0	1	0	0	1	1
Lucas	1	12	0	0	0	1	1
Ottawa	1	8	0	0	1	2	3
Darke	1	0	1	0	0	2	2
Shelby	5	139	0	0	0	6	6
Hardin	2	40	1	0	0	4	4
Paulding	3	67	0	0	0	7	7
Defiance	0	0	0	0	0	1	1
Crawford	0	0	0	0	0	1	1
Michigan	0	0	0	0	0	2	2
Total July	58	616	10	0	5	78	83
Total June	83	974	9	4	6	81	87
Difference	25	358	1	4	1	3	4

Wells Completed
WOOD COUNTY

Montgomery—
J. H. Wensel, Onsel Bros. 1, 2, 3, 4, 5, 6 abd
Portage—
W. & S. Snyder, Onsel Bros. 3, 5, 6.... abd
Plain—
Case & Case, Progress Oil 11 6
W. C. Blystone, R. C. Shuler & Co. 2.. abd
Henry—
J. H. Faylor, J. T. Montgomery 20 5
Bloom—
E. H. Monasmith, Ohio Oil 17 ..... dry
E. Shannaberger, Ohio Oil 46 20
James Moyer, Ohio Oil 21 ..... dry
Perrysburg—
Chas. Spilker, John E. Welton & Co. -.. dry
Wm. Budd, John E. Welton & Co. 3 12
Lake—
J. F. Hurrelbrink hrs, Chas. F. Zeising & Co. 1 30
Fred Schulte, Lantz, Gregg & Schulte 8 12
Middleton—
L. D. Stonebrook, Lecher, Twining & Co. 1 ..... dry
Troy—
W. & H. Hartman, Geo. W. Hoffman 4 4
Ross—
Thos. F. Rideout, Ohio Oil 1, 2, 3.... abd

Wells completed 11
Production 89
Dry 4
Abandoned 13

HANCOCK COUNTY

Eagle—
Allice Stauffer, Star & Clark 5 10
Lem Aurand, Porter & Hovis 18 15
J. H. Haley, B. Porter & Co. 19..... 15
J. H. Haley, E. Porter & Co. 20 10
J. H. McClelland, B. Porter & Co. 4.... 5
Orange—
J. H. Nonnemaker, Ohio Oil 4 2
Portage—
C. Dreitzler, Ohio Oil 15 2

Wells completed 7
Production 59

ALLEN COUNTY

American—
Elias Crites No. 2, Ohio Oil 18 6
Amanda—
Harvie Crites, Kelly Bros. 1 3
Bath—
Elias Lewis, C. A. Peavey & Co. 13.... 5
Elias Lewis, C. A. Peavey & Co. 14 5
S. Miller, Chas. Geselchen 7 15
C. G. Vere, Chas Geselchen 3 10
Richland—
J. N. Neuswander, Neuman, Small & Co. 1, 2 ..... abd
B. Andrews, Neuman, Small & Co. 4, 5, 6 ..... abd
W. H. Stettler, Neuman, Small & Co. 1, 2, 3, 4, 5, 6 ..... abd

Wells completed 6
Production 44
Wells abandoned 11

AUGLAIZE COUNTY

Moulton—
W. E. Cook, Geselchen & Young 7 .... dry
Logan—
E. Place, W. B. Jack & Co. 1 10
Douchouquet—
Fred Preiser, Boston-Southwestern Oil & Gas 5 20
Jackson—
C. Stennerman, Rock Oil 4 8
C. Stennerman, Lyons & Co. 1 8

Wells completed 5
Production 46
Dry 1

SANDUSKY COUNTY

Jackson—
Martha Talbert, Haubert & Talbert 5 .. 5
Martha Talbert, Haubert & Talbert - .. abd
Washington—
R. Netcher, Netcher-Magsig Oil 4 2
R. Netcher, Netcher-Magsig Oil 5 1
E. E. Doll, Lucy M. Heyman 1 ..... abd
F. J. Barman, Berlin & Russell 1 ..... abd
Madison—
Minnie Oberst, Van Vleck-Stowe Oil 15 8
F. Talker Sr., No. 2, Ohio Oil 25 8
D. B. Jones, Van Vleck-Stowe Oil 13 .. 6
Scott—
Kline & Ernst, Oden Oil 8 ..... abd

Wells completed 6
Production 30
Abandoned 4

MERCER COUNTY

Gibson—
H. Brayman, E. C. Smith 1 ..... dry
Center—
W. M. Miller, Colt, McClure & Co. 4.... 15
W. M. Miller, Colt, McClure & Co. 5 15
W. M. Miller, Colt, McClure & Co. 6 15
Josephine Fast, J. W. McIntosh 3 .... dry
Jefferson—
Rosell B. Albin, June Oil 1 5
Liberty—
Peter Alt, D. A. Beatty 2 10
Granville—
S. Wendall, C. G. Lowrey & Co. 7 12

Wells completed 8
Production 72
Dry 2

VAN WERT COUNTY

Jennings—
Thos. E. Jones, Stelzer & McClure 2 .. 10

SENECA COUNTY

Clinton—
James Seipher, Arthur E. Geyer & Co. 1 dry

LUCAS COUNTY

Jerusalem—
R. H. & M. A. Eck, Ohio Oil, 16 12
Oregon—
C. J. Crofts, Ohio Oil 1, 2 ..... abd

Wells completed 1
Production 12
Wells abandoned 2

OTTAWA COUNTY

Harris—
H. W. Nieman, Sherman, Richards & Co. 8 8
Ross Reynolds, Reynolds Oil 5 ..... abd
Allen—
J. P. Jenson, Ohio Oil 1 ..... abd
John Frederickson, Ohio Oil 1 ..... abd

Wells completed 1
Production 8
Abandoned 3

DARKE COUNTY

Mississinewa—
J. C. Gile, E. G. Henderson & Co. 1.. dry

SHELBY COUNTY

Cynthian—
Chas. Broerman, G. B. Willes & Co. 6.. 10
J. H. Borhorst, Lee A. Watson 4 10
Joe Zimmerman, American Natural Gas 1 52
Henry Danzig, Slagel & Johnson 3 27
McLean—
Clara Sherman, Rottinghouse Drg. Syndicate 1 40

Wells completed 5
Production 139

HARDIN COUNTY

McDonel—
Jess Dysart, Roundhead Oil & Gas 1.... 40
Marion—
James Grassley, Schmidt & Co. 2 ..... dry

Wells completed 2
Production 40
Dry 1

PAULDING COUNTY

Harrison—
Effie Cline, Geo. S. Lacknett 1 25
John Stabler, H. L. Dogle & Co. 1 17
Benton—
M. Pepple, Geo. S. Lacknett 1 25

Wells completed 3
Production 67

WOOD COUNTY
Wells Drilling

Freedom—
B. Brockover, J. Ed Matzinger 9.
Plain—
E. St. John, Eckler & Collins 18.
Harley Avery, Smith, Hamman & Co. 3.
G. A. Foos, Barclay Perry 1.
Bloom—
James Loe, Ohio Oil 21.
Liberty—
Emily Thomas, Underwood Oil 1.
Perrysburg—
Francis Welland, W. F. Johnson 2.
Merlin Speck, Melvern Good 4.
Wm. Budd, John E. Welton & Co. 4.
Middleton—
Mrs. M. Jamerson, Lechner, Twining & Co. 1.
A. Schuller, Waterville Gas & Oil 9.
Troy—
W. & H. Hartman, Geo. W. Hoffman 5.
Wells drilling, 12.

HANCOCK COUNTY
Rigs

Liberty—
F. Bish, B. B. Porter 1.
Marion—
J. G. Oberholtzer, Findlay Petroleum 14.

Wells Drilling

Eagle—
H. Blymyer, R. Glick & Co. 10.
Lem Aurand, Porter & Hovis 19.
Alice Stauffer, Star & Clark 6.
Union—
Henry Deeds, Ewing & Montgomery 10.
Allen—
Nathan Taylor, Henry Bushey 3.
Cass—
P. C. Redfern, Ohio Oil 15.
Rigs, 2; wells drilling, 6; total, 8.

ALLEN COUNTY
Wells Drilling

American—
M. L. Bowyer, Mack P. Colt No. 4 Act. 54.
Jos. Brenneman, Ohio Oil 9.
Spencer—
Shoup & Severens, W. L. Parmenter 10.
J. A. Beerman, Gwynn Oil 4.
Ed. Reynolds, Short Fork Oil 3.
Bath—
Jessie S. Miller, Carman, Botkins & Co. 4.
Perry—
Mrs. J. J. Graves, Mrs. J. J. Graves 1.
Marion—
Wm. Brant, J. Oscar Hoover & Co. 10.
Wells drilling, 8.

AUGLAIZE COUNTY
Wells Drilling

Moulton—
Jess Rapp, Iron Mountain Oil 4.
Salem—
Geo. Hettinger, Drake & Galloway 2.
Dourchouquet—
Fred Preiser, Boston-Southwestern Oil & Gas 6, 7.
Fred Kohler, C. C. Romshe.
Jackson—
Jos. Woehrmyer, Crystal Oil 2.
Wells drilling, 7.

SANDUSKY COUNTY
Wells Drilling

Jackson—
Martha Talbert, Haubert & Talbert 6.
Woodville—
Henry Bruns, Ohio Oil 23.
Washington—
J. Whitney, M. G. Norton & Co. 4.
Wells drilling, 3.

MERCER COUNTY
Wells Drilling

Gibson—
L. L. Lowery, Cole Oil & Gas 2.
Joe Schmertz, E. G. Henderson & Co. 6.
P. J. Schmertz, Central West Oil & Gas 8.
Hopewell—
C. C. Ricketts, E. A. Kuhns & Co. 6.
Geo. P. Hellworth, Home Banking Co. 6.
Elizabeth Eiche, B. Y. J. Oil 1.
Butler—
J. E. Nueby, Ray Young & Co. 1.
Center—
W. M. Miller, Colt, McClure & Co. 7.
Liberty—
M. Lynn, Celina Petroleum 11.
Recovery—
Rose Flecher, same S. Tate Jr. 2.
Black Creek—
Brehm Bros. Celina Petroleum 5.
Wells drilling, 11.

VAN WERT COUNTY
Rigs

York—
Keyser-Forewater, Stelzer & McClure 4.
Wm. George Wheeler Oil 4.

Wells Drilling

Jennings—
Roller-Hennon, Stelzer & Boyd 7.
Willshire—
A. J. Cully, J. H. Harmon & Co. 1.
Ridge—
J. E. Moore, Calvin Neely 2.
York—
C. W. Crone, A. C. Grace 2.
Rigs, 2; wells drilling, 4; total, 6.

SENECA COUNTY
Well Drilling

Clinton—
Henry Bell, C. B. Kinney & Co. 7.

LUCAS COUNTY
Well Drilling

Monclova—
Wm. Black, Swan Creek Oil & Gas 2.

OTTAWA COUNTY
Rig

Cayawba Island—
S. A. Herald, Underwood Oil & Gas 1.

Wells Drilling

Harris—
H. W. Neiman, Sherman, Richards & Co. 9.
Benton—
Henry Pieffer, F. C. Johnson & Co. 1.
Rigs, 1; wells drilling, 2; total, 3.

DARKE COUNTY
Wells Drilling

Wayne—
J. C. & E. English, Lee A. Watson 1.
H. Cramer, Lee A. Watson 1.
Wells drilling, 2.

SHELBY COUNTY
Wells Drilling

Cynthian—
Frank Danzig, Fort Laramie Oil & Gas 3.
H. F. Helscher, Slagle & Johnston 3.
Joe Seigel, American Natural Gas Co. 2.
J. W. Kloeker, Eilerman Oil 2.
Laramie—
H. Paulis, O. J. McGuiggan & Co. 1.
Van Buren—
W. Egbert, E. C. Huenke 1.
Wells drilling, .

HARDIN COUNTY
Wells Drilling

McDonel—
A. R. Zimmerman, Whipple, Ulrich & Co. 3.
Howard Evans, Boston-Southwestern Oil & Gas 1.
Mary Maustine No. 2, Roundhead Oil & Gas 1.
Roundhead—
Maggie Austine, Defenbaugh & Co. 1.
Wells drilling, 4.

PAULDING COUNTY
Wells Drilling

Harrison—
Nancy Bailey, Geo. S. Lacknett 1.
C. C. Springer, John T. Schunck 4, 5.
Thomas Lamb, John A. Thompson & Co. 4.
A. M. Bailey, U. S. A. Oil 5.
Benton—
Sam Stabler, Richland Oil & Gas 2.
Brown—
C. & E. Johnson, Roger L. Dill & Co. 2.
Wells drilling, 7.

DEFIANCE COUNTY
Well Drilling

Adams—
Adams Township Oil & Gas 1.

CRAWFORD COUNTY
Well Drilling

Galion—
Town lot, Weed-Hamilton Oil 1.

MICHIGAN
MONROE COUNTY
Well Drilling

Dundee—
Frank Roe, Jackson County Oil & Gas 1.

JACKSON COUNTY
Well Drilling

Napoleon—
Silvers, Jackson County Oil & Gas 1.

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Fairfield	0	0	0	0	1	0	1
Ashland	1	0	0	1	4	12	16
Medina	6	11	2	1	2	10	12
Lorain	7	10	1	5	4	9	13
Wayne	3	0	2	1	1	9	10
Richland	0	0	0	0	0	1	1
Vinton	1	0	1	0	0	0	0
Holmes	11	134	4	1	10	17	27
Jackson	0	0	0	0	4	1	5
Athens	6	0	2	4	2	10	12
Huron	1	0	1	0	0	0	0
Coshocton	2	0	0	2	0	0	0
Summitt	1	0	1	0	0	0	0
Ross	0	0	0	0	0	1	1
Total July	39	155	14	15	28	70	98
Total June	27	40	9	16	30	62	92
Difference	12	115	5	1	2	8	6

WELLS COMPLETED
ASHLAND COUNTY

Hanover—
Rhoda Black, Ohio Fuel Gas 1..... gas

MEDINA COUNTY

York—
Louisa A. Ulmer, Logan Gas 2 ..... gas
Chatham—
Geo. W. Packard No. 2, E. R. Edson Sons 13 2
Carl G. Packard, E. R. Edson Sons 18.. 4
Carl G. Packard, E. R. Edson Sons 19.. 5
D. B. Stratton, E. R. Edson Sons 1.... dry
Litchfield—
E. F. Bauer, E. R. Edson Sons 1 ..... dry

Wells completed 6
Oil wells 3
Production, oil 11
Dry 2
Gas 1

LORAIN COUNTY

M. G. Weely, Ohio Fuel Gas 1 ..... gas
C. E. Harold, Ohio Fuel Gas 3 ..... gas
Lucy Martin, Logan Gas 1 ..... gas
M. J. Malloy, East Ohio Gas 1 ..... gas
J. M. & A. Ashman, Wiser Oil 1 ..... gas
R. & E. Churchwood, Daugherty Bros. 1 dry
F. O. Akins, Daugherty Bros 2 10

Wells completed 7
Oil wells 1
Production, oil 10
Dry 1
Gas 5

WAYNE COUNTY

Congress—
Mary E. Shilling, Hulse & Kundtz 2... dry

Canyon—
S. Metz, Ohio Fuel Gas 1 ..... dry
C. Sells, East Ohio Gas 4 ..... gas

Wells completed 3
Dry 2
Gas 1

VINTON COUNTY

Clinton—
E. C. Wortman, Ohio Fuel Gas 5 ..... dry

HOLMES COUNTY

Monroe—
W. R. Parsons, Norwood Oil 2 20
C. G. Jarvis, East Ohio Gas 4 9
Jas. Patterson, Arkansas Fuel Oil 1 .... gas
J. J. McCullough, Ohio Oil 1 ..... dry
Prairie—
Margaret Miller, The Pure Oil 1 20
Washington—
H. L. Lifer, East Ohio Gas 1 ..... dry
A. Workman, Alonzo Workman 1 ..... dry
Hardy—
James Uhl, East Ohio Gas 4 25
W. H. Uhl, East Ohio Gas 3 30
Dave R. Anderson, East Ohio Gas 4 30
Kilbuck—
Jas L. Pyers, Empire Gas & Fuel 1.... dry

Wells completed 11
Oil wells 6
Production, oil 134
Dry 4
Gas 1

ATHENS COUNTY

Carthage—
L. H. Allen, Athens County Oil & Gas 2 gas
Oscar Clark, Ohio Fuel Gas 4 ..... gas
L. H. Allen, Sweeney & Snodgrass 6 .. gas
Rome—
A. McGraw, Logan Gas 1 ..... gas
G. R. Cook, G. R. Cook & Co. 1 ..... dry
Lodi—
J. Logaski, Coolville Oil and Gas 1 .... dry

Wells completed 6
Dry 2
Gas 4

HURON COUNTY

New London—
H. H. Thudum, Logan Gas 1 ..... dry

COSHOCTON COUNTY

Newcastle—
Cassingham-Herbig, Bell Bros. Oil 8, 9 gas

Wells completed 2
Gas 2

SUMMITT COUNTY

Richfield—
J. Telling, Hulse & Kundtz 1 ..... dry

FAIRFIELD COUNTY
Rigs

Rush Creek—
L. C. McCandlish, Ohio Fuel Gas 1.
Well Drilling
Berne—
A. B. Kiefaber, Lancaster Nat. Gas. 1.
Rigs, 1; wells drilling, 1; total, 2.

ASHLAND COUNTY
Rigs

Hanover—
E. Kick, Logan Gas 1.
Milton Wise, Logan Gas 1.
Orange—
J. J. Brown 6, Logan Gas 1.
Clayton I. Harmon, Logan Cas 1.
Wells Drilling
Hanover—
Howard Bookman, Logan Gas 2.
J. W. Sellers, Logan Gas 1.
H. Brookman, East Ohio Gas 2.
R. E. Brown, Ohio Fuel Gas 1.
Orange—
G. B. Frey, Fry Gas 1.
E. E. Markel, Hulse & Kundtz 1.
H. B. Wertman, Logan Gas 1.
L. H. & F. Smith, Logan Gas 1.
J. P. Calhoun, Logan Gas 2.
Greene—
Martha Bowen, Logan Gas 2.
P. C. Cowen, Logan Gas 2.
Ohio Fuel Gas 1.
Rigs, 4; wells drilling, 12; total, 16.

MEDINA COUNTY
Rigs

Harrisville—
J. S. Wisler, Logan Gas 1.
Montville—
Fairfax N. Smith, Ohio Fuel Gas 1.
Wells Drilling
Harrisville—
James Maper, Hulse & Kundtz 1.
Lafayette—
Hipolite Karas, Ohio Fuel Gas 1.
Athea Stewart, Arthur & Mills 1.
Montville—
J. K. Noid, Ohio Fuel Gas 1.
Westville—
M. D. Mosier, Logan Gas 1.
Frank Hoff, Logan Gas 2.
York—
Ada G. Swartz, Ohio Fuel Gas 1.
Grange—
Frank A. Welton, Empire Gas & Fuel 2.
Spencer—
Simon Rowand, Eppencur, McClelland & Co. 1.
Liverpool—
Geo. Stoskopf, Ohio Fuel Gas 1.
Rigs, 2; wells drilling, 10; total, 12.

LORAIN COUNTY
Rigs

Columbia—
G. & M. Hance, Ohio Fuel Gas 1.
J. & E. Greenwald, Ohio Fuel Gas 2.
W. D. Wilson, Empire Gas & Fuel 1.
Grafton—
J. L. Law, Ohio Fuel Gas 1.
Wells Drilling
Columbia—
J. F. Ring, Ohio Fuel Gas 1.
J. & E. Greenwald, Ohio Fuel Gas 1.
Jeremiah Martin, Logan Gas 1.
Jessie Adams, Logan Gas 1.
E. & G. Reisinger, Logan Gas 1.
G. D. & I. E. Alexander, Logan Gas 1.
J. J. Squire, Wiser Oil 1.
L. L. Ring, Wiser Oil 2.
F. A. Adams, Empire Gas & Fuel 1.
Rigs, 4; wells drilling, 9; total, 13.

WAYNE COUNTY
Rig

Cannan—
W. Shoemaker, Empire Gas & Fuel 1.
Wells Drilling
Wooster—
J. Sherrick, East Ohio Gas 1.
Wm. M. Orr, Ohio Oil 3.
Infirmary, Ohio Oil 23.
Jesse Hess, Ohio Oil 2.
Congress—
John Sheppard, Glen Harmon & Co. 1.
Cannan—
J. Gingery, Central Ohio Oil & Gas 3.
Earl Linch, Wm. Denny & Co. 1.
D. W. Hemming, Logan Gas 2.
Albert Moine, Logan Gas 1.
Rigs, 1; wells drilling, 9; total, 10.

RICHLAND COUNTY
Well Drilling

Franklin—
J. Lantz, Coyle & Matthews 2.

HOLMES COUNTY
Rigs

Monroe—
Wm. A. Smith, Empire Gas & Fuel 3.
Prairie—
Wm. M. Miller, The Pure Oil 2, 3.
Washington—
L. E. Denny, Logan Gas 1.
Hardy—
Scott V. Mask, Logan Gas 2.
D. & W. Finley, East Ohio Gas 1.
L. A. Sowash, East Ohio Gas 1.
Jacob Uhl, East Ohio Gas 5.
Kilbuck-Shimplin hrs. Empire Gas & Fuel 2.
Franklin Carpenter, Empire Gas and Fuel 1.
Wells Drilling
Monroe—
U. S. Davenport, Empire Gas & Fuel 1.
Wm Martin, Empire Gas & Fuel 1.
Albert Bell, Ohio Fuel Gas 1.
B. P. Uhl, Ohio Fuel Gas 2.
Prairie—
J. Clark Smith, The Pure Oil 1.
Lee Durbin, The Pure Oil 2.
Wayne F. Kendall, East Ohio Gas 2.
Hardy—
J. R. Forgy, East Ohio Gas 2.
Edwin Snyder, East Ohio Gas 1.
Dave R. Anderson, East Ohio Gas 2.
S. H. Sterling, East Ohio Gas 2.
H. McCullough, East Ohio Gas 2.
Mary E. Bridges, Empire Gas & Fuel 1.
A. M. Hudnut, Klise-Eckestein-McCann 1.
Kilbuck—
Bella Walton, Empire Gas & Fuel 3.
Loretta House, East Ohio Gas 2.
Byron Middaugh, East Ohio Gas 1.
Rigs, 10; wells drilling, 17; total, 27.

JACKSON COUNTY
Rigs

Coal—
R. B. Rice, Ohio Fuel Supply 1.
Franklin—
Geo. W. Westlake, Ohio Fuel Supply 1.
Washington—
S. E. Oghier, Ohio Fuel Gas 1.
Mary C. Anthony, Ohio Fuel Gas 1.
Well Drilling
Lick—
E. Cherrington, Ohio Fuel Supply 1.
Rigs, 4; wells drilling, 1; total, 5.

ATHENS COUNTY
Rigs

Carthage—
J. W. Kincaide, Logan Gas 3.
Rome—
P. D. Patton, Ohio Fuel Supply 1.
Wells Drilling
Carthage—
M. Kinnon, Logan Gas 4.
Eva Clark, Logan Gas 1.
J. C. Wolfe, Carter Oil 1.
J. R. Murphy, Carter Oil 1.
F. W. Chapman, Shady River Oil & Gas 11.
R. J. Runion, Ohio Fuel Supply 1.
F. W. Chapman, Athens County Oil & Gas 1
Troy—
Nettie Richardson, Ohio Fuel Supply 1.
Waterloo—
Elizabeth Efaw, Logan Gas 1.
Rigs, 2; wells drilling, 10; total, 12.

ROSS COUNTY
Wells Drilling

Colerain—
Amos Brown, Waring Oil 1.

ILLINOIS FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	7	271	0	0	15	15	
Crawford	5	95	1	1	0	6	6
Lawrence	4	185	0	0	0	4	4
Marion	1	40	0	0	0	2	2
Wabash	6	230	4	0	0	2	2
Douglas	0	0	0	0	0	1	1
Coles	1	0	1	0	0	0	0
Union	0	0	0	0	0	1	1
Edwards	0	0	0	0	1	0	1
McDonough	0	0	0	0	0	1	1
Fayette	0	0	0	0	1	1	2
Jackson	0	0	0	0	0	5	5
Total July..	24	821	6	1	2	37	39
Total June..	24	382	7	0	6	34	40
Difference...	0	439	1	1	4	3	1

CLARK COUNTY
Wells Completed

Parker—
Fred Knecht, Bohannon & Co. 3 1
Casey—
John Laigner, B. H. Heaton & Co. 3.. 5
Martinsville—
Nettie Baker, W. C. McBride Inc. 7 .. 55
T. J. Ramsey, H. C. Ferriman & Co. 4.. 50
Thomas Ramsey, Wilson Kraft & Co. 1 50
S. McFarland, Trenton Rock Oil & Gas 1 35
Wheeler Baker, Ellis, Myers & Co. 1.. 75

Wells completed 7
Production 271

CRAWFORD COUNTY

Martin—
A. W. Mann, Frost Oil 1 85
Honey Creek—
John Kent No. 1, Ohio Oil 2 ..... dry
Montgomery—
Eliza Duncan, John Phipps & Co. 2 9
J. H. Dickinson, Indian Refg. 1 1
Licking—
Silas Wilkin, Peoples Bank & Trust 2.. gas

Wells completed 5
Production 95
Gas 1
Dry 1

LAWRENCE COUNTY

Lawrence—
Mary J. Penner, Ohio Oil 9 5
Bridgeport—
J. L. Kimmell No. 1, Ohio Oil 36 30
Dennison—
McCloskey hrs. International Oil & Gas 13 100
Sherm Gillespie, Big Four Oil & Gas 19 50

Wells completed 4
Production 185

MARION COUNTY

Centralia—
A. W. Webster, Petro Oil & Gas 6 40

WABASH COUNTY

Wabash—
Holson-Dorney, Max Oil 3 215
R. & E. Higgins, Gray & Co. 2 15
W. F. Coulter, J. S. Young & Co. 4 .... dry
Clara Armstrong, J. S. Young & Co. 2.. dry
G. D. Adams, J. F. Toomey & Co. 6 .... dry
H. A. Price, Wirebaugh & Co. 2 ..... dry

Wells completed 6
Production 230
Dry 4

COLES COUNTY

Ashmore—
B. Humphreys, H. McCurdy & Co. 1... dry

CLARK COUNTY
Wells Drilling

Parker—
A. S. Brand, Shrider, Coats & Co. 1.
M. B. Lee, King-Baldridge & Co. 3.
C. T. Marshall, W. H. Squires 27.
A. J. Bigelow, Ohio Oil 38.
Casey—
J. C. Hanks, Gillette Oil Corp. 2.
John Laigner, B. H. Heation & Co. 4.
Johnson—
Chas. Snearley, Squires & Co. 13.
Martinsville—
Nettie Baker, W. C. McBride Inc. 8.
Mary J. McClelland, C. W. Titus & Co. 3.
T. J. Ramsey, John T. Smith & Co. 2.
D. Morgan, Van Orden & Co. 4.
S. M. Brosman, Ohio Oil 17.
Trenton Rock Oil & Gas 4.
Wheeler Baker, Ellis, Meyers' Co. 2.
Marshall—
Near Marshall, R. E. Merrifield, Trus. 1.
Wells drilling, 15.

CRAWFORD COUNTY
Wells Drilling

Martin— .....
S. Shipman, James Pease & Co. 14.
Honey Creek—
Isaac Conover, Grant Jessup & Co. 1.
Hignsmith Bros. J. D. Toomey 14.
Montgomery—
Mary Duncan, John Phipps & Co. 1.
Prairie—
J. A. Newlin, John S. Abbott & Co. 12.
Wells drilling, 5.

LAWRENCE COUNTY
Wells Drilling

Lawrence—
G. C. Dunlap, Samuels, Duffield & Co. 10.
Bridgeport—
E. Combs No. 2, Ohio Oil 1, 2.
Dennison—
Ed. Meaghn, Ohio Oil 8.
Petty—
D. P. Stoltz No. 1, Ohio Oil 9.
Wells drilling, 4.

MARION COUNTY
Wells Drilling

Centralia—
Wm. Langewich, Timberlake & Co. 2.
Patoka—
L. E. Green, Ohio Oil 1.
Wells drilling, 2.

WABASH COUNTY
Wells Drilling

Wabash—
M. Richter, Phipps & Blosser 1.
D. H. Price, J. S. Young Jr. & Co. 1.
Wells drilling, 2.

DOUGLASS COUNTY
Well Drilling

Sargent—
W. E. Brown, Douglass Oil 1.

UNION COUNTY
Well Drilling

Bald Knob—
Near Alta Pass, W. Mac Smith 1.

EDWARDS COUNTY
Rig

Near Graysville—
Geo. Porter & Co. 1.

M'DONOUGH COUNTY
Well Drilling

Lamoine—
Adams, Chas. Measley 1.

FAYETTE COUNTY
Rig

Fayette—
John Baxter, H. McCurdy & Co. 1.
Well Drilling
Fayette—
Unknown, Ohio Oil 1.

JACKSON COUNTY
Wells Drilling

Bradley—
Rickenbaugh No. 1, Mid-Egypt Oil & Gas 6.
Rickenbaugh No. 2, Mid-Egypt Oil & Gas 3.
Arley, Unknown 1.
George Ziebold, Unknown 1.
District 14, Unknown 1.
Wells drilling, 5.

INDIANA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Blackford	7	40	3	0	0	1	1
Jay	7	40	3	0	0	1	1
Adams	0	0	0	0	0	1	1
Delaware	1	0	1	0	0	2	2
Randolph	0	0	0	0	1	0	1
Gibson	2	30	0	0	0	3	3
Pike	2	10	1	0	0	2	2
Allen	1	25	0	0	0	4	4
Sullivan	2	0	1	1	0	5	5
Hendricks	0	0	0	0	0	1	1
Jackson	0	0	0	0	0	1	1
Shelby	0	0	0	0	0	1	1
Spencer	0	0	0	0	0	1	1
Lagrange	0	0	0	0	0	1	1
Daviess	1	70	0	0	0	0	0
Total July..	16	175	6	1	1	24	25
Total June..	17	139	6	0	5	23	28
Difference...	1	36	0	1	4	1	3

BLACKFORD COUNTY
Wells Completed

Harrison—
Ellen R. Nye, J. W. Neely 3, 4, 5, 6, 7, 8, 9, 10 ..... abd
Maretta Shannon, J. W. Neely 1, 2, 3, 4, 5, 6, 7, 8 ..... abd

Wells abandoned 16

JAY COUNTY

Penn—
Bourne Bros. A. M. Jones 2 10
Bourne Bros. A. M. Jones 3 ..... dry
S. E. Davis, Amber Inc. 11 ..... dry
Bear Creek—
S. R. & N. Fyle, Shamrock Oil 1 5
D. M. Callahan, J. J. Adams 8 15
J. W. Polley, National Supply 1, 2, 3, 4, 5, 6 ..... abd
W. S. Frank, National Supply 2, 3, 4, 5, 6 ..... abd
J. E. Dilts, J. E. Dilts 1, 2, 3 ..... abd
Noble—
H. C. Anderson, Rice & Cross 1..... 10
Richland—
A. N. Wilson, C. E. Whittenhill 1 .... dry

Wells completed 7
Production 60
Dry 2
Wells abandoned 14

GRANT COUNTY

Jefferson—
A. A. Moorman, Jacob Wides 4 ..... abd
Mark Richards, Jacob Wides 1, 2 ..... abd

Wells abandoned 3

DELAWARE COUNTY

Delaware—
J. O. Dehaven, Hoke Sargent & Co. 1.. dry

GIBSON COUNTY

Barton—
T. J. Parker, Consolidated Oil & Nelson 1 10
Washington—
Alice Fredericks, Murphy Oil of Pa. 19. 20

Wells completed 2
Production 30

PIKE COUNTY

Monroe—
Mary M. Schmidt, Ohio Oil 1 ..... dry
Logan—
E. Beck, E. Singer & Co. 1 10
Madison—
J. Snyder heirs, Ohio Oil 6 ..... abd
C. Burkhart, Ohio Oil & Bement 5, 6 .. abd

Wells completed 7
Production 10
Dry 1
Wells abandoned 3

ALLEN COUNTY

Maumee—
H. D. Helmke, Auburn Oil 1 25

SULLIVAN COUNTY

Fairbanks—
J. F. Harrison, Hollingsworth & Co. 1.. dry
Gill—
R. M. Bledsoe, Fred Bays 1 ..... gas

Wells completed 2
Dry 1
Gas 1

DAVIESS COUNTY

Veale—
Frank Gaither, Hartman, Sargent & Young 1 70

BLACKFORD COUNTY
Well Drilling

Harrison—
A. F. Gerard, Montpelier Dev. 1.

JAY COUNTY
Well Drilling

Penn—
Bourne Bros. A. M. Jones 4.

ADAMS COUNTY
Well Drilling

Wabash—
J. L. Aspy, Aspy Oil 2.

DELAWARE COUNTY
Wells Drilling

Delaware—
Levi Brooker, Hoke Sargent & Co. 1.
L. M. Coons, Clark & Hawkins 9.
Wells drilling, 2.

RANDOLPH COUNTY
Rig

Green—
W. Cline, T. O. Thorp 2.

GIBSON COUNTY
Wells Drilling

Barton—
Eliza M. Harper, Consolidated Oil & Nelson 2.
G. W. Finch, Young & Co. 1.
Union—
Tieman Bros., J. H. Young & Co. 2.
Wells drilling, 3.

PIKE COUNTY
Wells Drilling

Logan—
F. Chandler, Rendals & Chandler 1.
Washington—
C. Dawson, Loeb, Fought & Co. 3.
Wells drilling, 2.

ALLEN COUNTY
Wells Drilling

Maumee—
H. D. Helmke, Auburn Oil 2.
Richard Johnson, West Mansfield O. & G. 1.
J. H. Gerbes, A. S. Cochran 1.
Near Baldwin, E. Stevenson 1.
Wells drilling, 4.

SULLIVAN COUNTY
Wells Drilling

Hamilton—
A. J. Ross, R. G. Smith 1.
Turman—
J. R. Riggs, J. R. Riggs 1.
C. Woner, Billman & Co. 1.
Josephine Dix, Ohio Oil & Kennedy 19.
Gills—
R. M. Bledsoe, Fred Bays 2.
Wells drilling, 5.

HENDRICKS COUNTY
Well Drilling

Near Freestone—
Unknown Parties 1.

SHELBY COUNTY
Well Drilling

Van Buren—
J. Harve Snyder, L. Nicholson 1.

SPENCER COUNTY
Well Drilling

Dale—
Huppert 160-a, Murray, Howard & Co. 1.

LAGRANGE COUNTY
Well Drilling

Howe—
Howe Oil & Gas 1.

KENTUCKY-TENNESSEE

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	19	117	7	0	1	39	40
Allen	32	106	9	0	2	21	23
Barren	44	268	12	0	1	46	47
Owensboro	13	204	3	0	2	24	26
Cumberland-Monroe	7	175	0	0	0	17	17
Hopkins	0	0	0	0	0	3	3
Grayson	0	0	0	0	0	2	2
Russell	0	0	0	0	0	1	1
Logan	1	6	0	0	0	1	1
Simpson	0	0	0	0	0	3	3
Metcalf	1	15	0	0	1	0	1
Meade	0	0	0	0	0	1	1
Adair	0	0	0	0	0	0	0
Wayne	6	36	2	0	0	18	18
Wolfe	0	0	0	0	0	1	1
Jackson	0	0	0	0	0	1	1

Clay	3	0	1	2	0	0	0
Boyd	1	20	0	0	0	1	1
McCreary	0	0	0	0	0	2	2
Estill	0	0	0	0	0	1	1
Breathitt	0	0	0	0	1	1	2
Lee-Owsley	5	30	0	2	0	13	13
Lawrence-Johnson	2	58	0	0	3	17	20
Johnson-Magoffin	7	19	2	0	2	27	29
Floyd	5	0	0	5	0	13	13
Greenup	0	0	0	0	2	5	7
Martin	2	0	0	2	0	2	2
Morgan	1	5	0	0	0	4	4
Kentucky	141	1,059	36	11	18	365	283
Tennessee	0	0	0	0	7	27	34
Mississippi	1	0	1	0	3	10	12
Alabama	0	0	0	0	1	9	10
Georgia	0	0	0	0	1	4	5
Total July	142	1,059	37	11	29	315	344
Total June	172	2,395	50	9	31	268	299
Difference	30	1,336	13	2	2	47	45

KENTUCKY

WARREN COUNTY
Wells Completed

Bowling Green—
Porter, Ennis & Co. 3 8
H. Rigglewood, McCombs Prod & Refg. Co. 5 4
Bryant, H. A. Henry 11 15
Gillispie, H. Z. Clarke, trustee 7 5
Price, Caskery & Pryor 7 5
Kimbro, Rockfield Oil Co. 8 7
Smith, Rockfield Oil Co. 15 14
G. Davenport No. 2, T. A. Sheridan 7 10
G. Davenport No. 1, T. A. Sheridan 1 25
Wilson, Onsel & Harnahan 8 4
Davenport, Onsel & Harnahan 3 ..... dry
Grimes, Wood Oil Co. 10 5
S. T. Pearson, Dickson & Sledge 6 15
Cox, Bannon & Stewart 22 ..... dry
Jenkins, Johnson & Co. 10 ..... dry
Cox, Whitner, Snock & Owen 1 ..... dry
McElwain, Illinois-Kentucky Synd. 1 ..... dry
E. C. Dillard, F. J. Bishop 3 ..... dry
C. P. Barlow, A. Allen & Co. 1 ..... dry

Wells completed 19
Production 117
Dry 7

ALLEN COUNTY

Scottsville—
J. L. Harris, W. L. Baird 5 ..... dry
J. B. Straight, Harvey A. Miller 3 ..... dry
Walker, Central Southern Oil Co. 9 ..... dry
Richards, H. A. Kiser 1 ..... dry
Marcum, Keyes Oil Corp. 1 ..... dry
Miller, Unknown parties 3 ..... dry
Lyle, Work & Hice 5 ..... dry
Emberton, Bastrus & Co. 1 ..... dry
F. R. Corder, White Plains Oil & Gas Co. 8 ..... dry
Beam, Keyes Oil Corp. 7 5
Beam, Keyes Oil Corp. 6 9
Welsh, W. R. Thompson 7 3
L. Bousher, Unique Oil Co. 8 3
W. C. Cockrill, Simpson & Co. 3 15
J. E. Neil, White Plains Oil & Gas Co. 8 1
H. W. Reynolds, White Plains Oil & Gas Co. 6 2
Jones, H. A. Kiser 4 4
J. W. Frost, W. G. Moorman, trustee 13 10
Kerley, Neil-Huebring Oil Co. 12 15
Wheat, Parson & Bastrus 8 12
Lyle, Work & Son 10 8
Chandler, Chandler & Co. 5 10
Lyle, Work & Hice 4 12

Wells completed 23
Production 106
Dry 9

BARREN COUNTY

Glasgow—
Green, Ziegler Bros. 2 ..... dry
Decker, Snyder, Snyder & Smith 1 ..... dry
Tom Jones, Samson & Yound 1 ..... dry
Duke, L. J. Emery, Jr. & Sons 1 ..... dry
John A. Dodd, Hammerly & Co. 1 ..... dry
Houck, Wood Oil Co. 2 ..... dry
C. A. Turner, Consolidated Gas Co. 2 ..... dry
Jones, Esslinger Oil Co. 4 ..... dry
Jones, Esslinger Oil Co. 5 ..... dry
Miller, Fred Moore 1 ..... dry
Bybee, Hiland Oil Co. 2 ..... dry
Fee, Glasgow Oil & Refg. Co. 1 3
Joe Church, Wood Oil Co. 3 16
Grover Evans, Wood Oil Co. 2 2
Redman, Wood Oil Co. 2 3
Depp, Consolidated Gas Co. 2 4
Depp, Consolidated Gas Co. 3 8
C. A. Turner, Consolidated Gas Co. 1 2
C. A. Turner, Consolidated Gas Co. 3 2
Depp and Greer, L. J. Emery, Jr. & Sons 10 9
Depp and Greer, L. J. Emery, Jr. & Sons 11 4
Depp and Greer, L. J. Emery, Jr. & Sons 12 12
Cassidy, Hiland Oil Co. 6 30
Saunders, Hiland Oil Co. 8 6
McClaskin, Porter & Co. 7 15
Mayfield, Houchins Leasehold Co. 7 3
Regal, Laree Oil Co. 1 8
Regal, Laree Oil Co. 2 11
B. Scott, Wiggins & Gillispie 10 6
Ritchie, Star Oil Co. 26 10
Ritchie, Star Oil Co. 27 12
Ritchie, Star Oil Co. 28 9
Ritchie, Star Oil Co. 29 10
Ritchie, Star Oil Co. 30 8
Ritchie, Star Oil Co. 25 10
Jess Wininger, Carter Oil Co. 4 3
Deering, Carter Oil Co. 1 2
Travis, Fred Moore 9 16
Gassaway, Fred Moore 3 5
Howard, Fred Moore 5 12
Evans, Harrington & Norris 7 16
Taylor, Mansfield, Ziegler Bros. 5 6
Travis, Fred Moore 8 5
Nichols, Smith & Son 7 ..... dry

Wells complete.d 44
Production 268
Dry 12

OWENSBORO DISTRICT

Owensboro—
Col. Powers, Pennsylvania-Indiana Oil Synd. 3 25
Jess Swope, Pennsylvania-Indiana Oil Synd. 4 50
Jess Swope, Pennsylvania-Indiana Oil Synd. 5 35
Simpson, Pennsylvania - Indiana Oil Synd. 1 3
O. T. Burdette, White & Nicklin 3 15
J. W. Smith, Panther Creek Oil Co. 6 10
J. T. & A. T. Casey, I. N. Harkless 9 ..... dry
W B. Wells, Roy Diament 1 5
J. M. Collier, C. A. Leeper 1 50
Bert Thompson, Spice Knob Development Co. 3 6
Heffler, Thomas & Co. 1 ..... dry
G. Midkiff, O. C. Boop 1 ..... dry
Norah Chambers, Kentucky Oil Co. 3 5

Wells completed 13
Production 204
Dry 3

CUMBERLAND-MONROE COUNTIES

Burkesville—
C. A. Cheatham, Alta Oil Co. 3 10
C. A. Cheatham, Alta Oil Co. 4 15
J. M. Hughes, McClintock et al 1 10
Kim Crawford, Singleton & Co. 1 25
Maude Blythe, A. S. McClintock 3 25
Logan, Three Creek Oil Co. 1 80
T. Bow, Judio Co. Inc. 3 10

Wells completed 7
Production 175

LOGAN COUNTY

Auburn—
Jim Peart, Mullin & Reagle 8 6

METCALF COUNTY

Edmonton—
Bell, A. W. Richards 3 15

WAYNE COUNTY

Monticello—
Dabney, Superior Oil Corp. 9 10
Coffey heirs, Bell Bros. 2 1
C. W. Burnett, Daugherty & Co. 2 20
Griffin, Shearer & Dillion 2 5
Emma Lair, Wood Oil Co. 4 ..... dry
Fairchild, F. M. Taylor & Co. 2 ..... dry

Wells completed 6
Production 36
Dry 2

CLAY COUNTY

Goose Creek—
Near Foreman tract, Standard Oil Co. of Kentucky 1 ..... dry
On Wildcat branch, Standard Oil Co. of Kentucky 1 ..... gas
Bull Creek, Coleman, Benton et al 1 ..... gas

Wells completed 3
Gas 2
Dry 1

BOYD COUNTY

Ashland—
Summit, Sam J. De Bord 1 20

LEE-OWSLEY COUNTIES

Idamay—
Jack Evans, Combs Bros. 1 5
Paris-Gourley, H. B. Sipple 2 10
Daniels-Foreman, Henry Oil Co. 3 15
Mac Gum, Petroleum Exploration 1 ..... gas
Alex Bond, Petroleum Exploration 2 ..... gas

Wells completed 5
Production 30
Gas 2

LAWRENCE-JOHNSON COUNTIES

North Weir Field—
B. R. Hamilton, David Fox 4 8
W. D. Lester, Union Gas & Oil 9 25
C. E. Frailey, Union Gas & Oil Co. 6 25

Wells completed 3
Production 58

JOHNSON-MAGOFFIN COUNTIES

South Weir Field—
Abe Caudill, Petroleum Exploration 28 3
Oscar Wheeler, Hudson & Collins 2 1
J. H. Gardner, New Domain Oil & Gas Co. 11 2
F. M. Moore, R. G. Gillispie 5 3
Abe Caudill, Petroleum Exploration 34 10
W. S. Adams, Petroleum Exploration 26 ..... dry
Patrick, Red Rock Petroleum Co. 3 ..... dry

Wells completed 7
Production 19
Dry 2

FLOYD COUNTY

Beaver Creek—
H. D. Martin, Ohio Fuel Oil Co. 1 ..... gas
M. D. Martin, Ohio Fuel Oil Co. 1 ..... gas
Tandy Martin, Louisville Gas & Electric Co. 2 ..... gas
Mary Martin, Louisville Gas & Electric Co. 1 ..... gas
Summitt area, American Roller Mills Co. 10 ..... gas

Wells completed 5
Gas 5

MARTIN COUNTY

Inez—
Alfred Carter, Big Derby Oil & Gas Co. 1 ..... gas
Mayo properties, Leonard & Ralph 4 ..... gas

Wells completed 2
Gas 2

MORGAN COUNTY

West Liberty—
Joe Howard, Oliver & Jenkins 1 5

MISSISSIPPI

Holly Springs—
Sec. 33-2-3, Hoffman tract, T. B. Slick 1 abd

WARREN COUNTY
Rig

Bowling Green—
C. G. Davenport, Wood Oil Co. 22.
Wells Drilling
Bowling Green—
G. Davenport tract No. 1, T. A. Sheridan 2.
G. Davenport tract No. 2, T. A. Sheridan 9, 10.
G. Davenport tract No. 3, T. A. Sheridan 2.
C. G. Davenport, McGee & Co. 2.
C. G. Davenport, Wood Oil Co. 21.
C. G. Davenport, Ruth Turner 4.
Ora S. Davenport, Onsel-Harnahan Oil Co. 4.
Wilson, Onsel-Harnahan Oil Co. 9, 10.
C. A. Keller, Belvedere Oil Co. 1.
Stone, C. E. Foster 6.
J. M. Morgan, Moken Oil Co. 3.
Mrs. C. Jones, Baker-Jones Synd. 12.
Baker-Jones, Hogan Bros. 1.
Jennie Briggs, Samuel Katz 11, 12.
Margaret Hobson, Samuel Katz 17.
Hobson heirs, Pennhoma Oil Co. 17.
Smith, Wm. Gettings 3.
Biddle, Cadet Oil & Gas Co. 24.
Grimes, Wood Oil Co. 11.
Bessie Snell, New Domain Oil & Gas Co.
McGinnis, Evans Oil Corp. 3.
W. R. Horton, P. H. Lavelle 7.
Worden, C. P. Tanneyhill 1.
Bryant, H. A. Henry 12.
Gillispie, H. Z. Clarke, trustee 8.
Smith, Essex Pet. Co. 7.
Detheridge, Owen, Whitner & Shock 2.
C. Balois, unknown 1.
C. P. Kelley, Joe Goldberg 1.
C. P. Barlow, A. Allen & Co. 2.
Holland, Richpond Oil Co. 1.
Stewart, L. C. Madison 1.
Butts, Victor Bartelette 4.
W. E. Hardcastle, Phillips & Brewer 3.
S. T. Pearson, Dickson & Sledge 7.
Cox, Bannon & Stewart 22.
Rigs, 1; wells drilling, 39; total, 40.

ALLEN COUNTY
Rigs

Scottsville—
C. Hailey, New Domain Oil & Gas Co. 1.
F. Dyson, C. P. Tanneyhill 11.
Wells Drilling
Scottsville—
Lee Moore, Lee Moore 6.
W. E. Oliver, A. E. Meffert 15.
Beam, Keyes Oil Corp. 8.
Y. Taliber, White Plains Oil & Gas Co. 15.
Joe Allen tract No. 2, W. L. Baird 9.
J. W. Frost, W. G. Moorman, trustee 14.
W. E. Simmons, E. M. Treat & Co. 1.
Travelstead, H. A. Kiser 6.
Bradley, H A. Kiser 1.
Smith, Keyes & Co. 2.
Miller, Keyes & Co. 4.
Dinkins, Stafford & Co. 1.
Kerley, Neil-Huebring Co. 13.
Lyle, Work & Son 11.
R. R. Smith, Hice & Co. 2.
E. L. Ayers, Wynn, Lowe & Co. 21.
D. G. Thacker, C. B. Brown 7.
Virgil McGuire, Dye Bros 1.
Sam Berion, unknown 1.
Vern Douglass, Mrs. C. La Duc 1.
Kennedy, Sutton & Co. 2.
Rigs, 2; wells drilling, 21; total, 23.

BARREN COUNTY
Rig

Glasgow—
Travis, Fred Moore 10.
Wells Drilling
Glasgow—
G. Mayfield, Houchins Leasehold Co. 1, 2.
G. Mayfield, Jr., Houchins Leasehold Co. 9, 10.
Ziegler, Houchins Leasehold Co. 9, 10.
Gum, L. J. Emery, Jr., & Sons 2.
Oakes, Alladin Oil Co. 2.
Warder, Elem Oil & Gas Co. 10, 11.
Howard, Fred Moore 6, 7.
Gassaway, Fred Moore 4.
Smith, Craig & Co. 16.
Regal, Laree Oil Co. 3.
Ritchie, Star Oil Co. 31, 32.
Scott, Wiggins & Gillispie 11.
McGlocklin, Porter & Co. 8.
Chamberlin,. T. L. Gorby 3.
Depp-Greer, L. J. Emery, Jr. & Sons 13, 14, 15, 16.
Cassidy, Hiland Oil Co. 7.
Jim Jones, Consolidated Gas Co. 1.
Depp, Consolidated Gas Co. 4.
Turner, Consolidated Gas Co. 4.
Houck, Wood Oil Co. 3.
Redman, Wood Oil Co. 3.
Taylor, Wood Oil Co. 1.
J. M. Church, Wood Oil Co. 9.
Mary Church, Wood Oil Co. 2.
Preston, Consolidated Gas Co. 2.
Evans, Harrington & Norris 8.
Hucherson, Harrington & Norris 2.
Unknown, Young, Samson & Co. 1.
Fee, Glasgow Oil Refining Co. 2.
L. D. Smith, Roller & Stump 1.
Near Austin, Keyes Oil Co. 1.
Britt, W. G. Moorman & Co. 1.
McKenzie, W. G. Moorman & Co. 1.
Fisher, Kopel Oil Co. 1.
Oscamp, Oscamp Dev. Co. 27.
Nichols, Porter & Co. 1.
Jones, Esslinger Oil Co. 6.
Rigs, 1; wells drilling, 46; total. 47.

OWENSBORO DISTRICT
Rigs

Owensboro—
Widow Crowe, C. E. Daugherty 6.
C. H. Voyles, Wood Oil Co. 1.
Wells Drilling
Owensboro—
Ira Crowe, Chicago Pet. Synd. 2.
Jess Swope, Pennsylvania-Indiana Oil Synd. 6, 7, 8.
Col. Powers, Pennsylvania-Indiana Oil Synd. 4.
F. V. Miller, Pennsylvania-Indiana Oil Synd. 10.
Frank Bowman, Powers & Cornell 1.
R. Ellis, Central Southern Oil Co. 1.
Ann Griffith, Randolph & Carson 1.
J. M. Collier, Leeper Oil Co. 2.
James Johnson, Leeper Oil Co. 1.
H. D. Brown, Leeper Oil Co. 2.
Allie Evans, Triangle Oil Co. 1.
Purcell, Triangle Oil Co. 1.
Sophia Stinnett, R. E. Diamint 1.
J. A. Coomes, Patton & Co. 1.
J. W. Smith, Panther Creek Oil Co 7.
Miller, Panther Creek Oil Co. 16.
Kate Phillips, I. N. Harkless 1.
Abe Howe, Pennsylvania-Indiana Oil Synd. 6.
W. E. Tyler, Wood Oil Co. 1.
H. S. McBrayer, White Plains Oil & Gas Co. 1.
A. Stewart, Kentucky Oil Co. 18.
Jim Ballard, Evansville Oil Co. 1.
Rigs, 2; wells drilling, 24; total, 26.

CUMBERLAND-MONROE COUNTIES
Wells Drilling

Burkesville—
Kim Crawford, Dayton Oil Synd. 2.
Maude Blythe, M. L. Gartlan, trustee 4.
Budd Kerr, A. S. McClintock 9.
Mary Scott, Coe Bros. 1.
Will Dowell, Atlantic Oil Producing Co. & Graves 2.
Anderson, McClintock & Raydure 2.
Vess Nun, Hook & Wise 1.
A. Sharp, Wilcox Bros. 1.
Davidson, Wilcox Bros. 1.
Melton, Wilcox Bros. 1.
S. Sheckles, Wilcox Bros. 2.
L. T. Bow, Freeman & McCormick 4.
M. C. Scott, Vedder Oil Co. 1.
B. H. Thurman, Erie parties 1
Less Butler, W. P. Mason 1.
J. L. Giddings, Cumberland Oil Co. 1.
C. A. Cheatham, Alta Oil Co. 5.
Rigs, 0; wells drilling, 17; total. 17.

HOPKINS COUNTY
Wells Drilling

Nortonville—
Holliman, Cooper Flash Oil Co. 8, 9.
Near Earlington, Copper Flash Oil Co. 1.
Rigs, 0; wells drilling, 3; total, 3.

GRAYSON COUNTY
Wells Drilling

Leitchfield—
Major, J. A. Beam, 1, 3.
Rigs, 0; wells drilling, 2; total, 2.

RUSSELL COUNTY
Wells Drilling

Creelsboro—
B. F. Leach, Carnahan Oil Co. 4.
N. Blesdoe, Creelsboro Oil Co. 1.
Rigs, 0; wells drilling, 2; total, 2.

LOGAN COUNTY
Wells Drilling

Auburn—
Jim Peart, Mullin & Reagle 9.

SIMPSON COUNTY
Wells Drilling

Franklin—
Hogan, Small & Sully 10, 11.
Proctor, J. H. Thompson 1.
Rigs, 0; wells drilling, 2; total, 2.

METCALF COUNTY
Rigs

Edmonton—
A. J. Thompson, T. Petty & Co. 2.

MEADE COUNTY
Well Drilling

Gaston—
Eva Carrigan, W. S. Proper 1.

ADAIR COUNTY
Rigs

Columbia—
J. H. Morgan, unknown 1.
Guthrie, unknown 1.
S. Blesdoe, unknown 1.
Rigs, 3; wells drilling, 0; total, 3.

WAYNE COUNTY (EASTERN DIVISION)
Wells Drilling

Monticello—
W. T. Ashburry, J. H. Hatfield 4.
P. L. Harmon, J. C. Brommer 4
Bridgman, Bowden & Co 1.
Castillo, Rex G. Carpenter 1.
Bridgman, Spardlin & Narsh 12.
S. Henninger, Illiken Oil Co. 2, 3.
Crabtree, E. M. Shearer & Co. 14.
Huffaker-Smith, Bridgman Oil Co. 4.
Fairchild, F. M. Taylor 3.
Upchurch, Head, Brown & Co. 4.
Dabney, Superior Oil Co. 9.
J. A. Brown, Marsh & Shearer 4.
Burnett heirs, D. C. Adkins 3.
Jas Copper, Dillion & Wetzel 7.
T. T. Davis, Vulcan Oil Co. 15.
H. Thompson, W. M. Back 1.
L. N. Morrow, Beaver Pet. Co. 12.
Rigs, 0; wells drilling, 15; total, 18

WOLFE COUNTY
Wells Drilling

Torrent—
Roberts, Atlantic Oil Producing Co. 4.

JACKSON COUNTY
Well Drilling

McKee, Upchurch Bros. 2.

BOYD COUNTY
Well Drilling

Ashland—
Summitt area, Sam J. DeBord 2.

McCREARY COUNTY
Well Drilling

Sterns—
Company lands, Brown & Co. 3, 4.
Rigs, 0; wells drilling, 2; total, 2.

ESTILL COUNTY
Well Drilling

Irvine—
Unknown, Isaac Henry 1.

BREATHITT COUNTY
Rig

Quicksand—
Mouth of Quicksand, Dukate et al 3.
Well Drilling
Quicksand—
Mouth of Quicksand, Dukate et al 2.
Rigs, 1; wells drilling, 1; total, 2.

LEE-OWSLEY COUNTIES
Wells Drilling

Idamay—
Logan Combs, Combs Bros. 1.
Spencer heirs, Bush & McCandless 1.
Gourley-Redman & McGuire, Black Gum Oil Co. 15, 16.
Widow Porter, Hupp, Duff & Co. 5.
Mays, Hupp, Duff & Co. 2.
Huntington, Huntington Oil Synd. 5.
Daniels-Foreman, Henry Oil Co. 4.
New Era Land Co., D. J. Johnsen 3.
Burns, Gross & Eaton 1.
Hignett, Benton & Co. 1.
Bert Lynch, Petroleum Exploration 1.
Addison heirs, Petroleum Exploration 1.
Rigs, 0; wells drilling, 13; total, 13.

LAWRENCE-JOHNSON COUNTIES
Rigs

North Weir—
J. J. Skaggs, Cumberland Pet. Co. 4.
W. E. Skaggs, Hovis & Young 3.
C. Osborne, Skaggs, Miller & Co. 1.
Wells Drilling
North Weir—
Robert Fyfee, Pluto Oil Co. 6.
Sparks, Carter Oil Co. 1.
W. M. Ross, S. E. Lohman 3.
J. D. Bons, J. T. Hare & Son 2.
Ira Lester, Wm. Stone & Co. 10.
Jesse Rose, Indian-Tex Pet. Co. 11.
J. D. Fox, David Fox 2.
L. T. Sparks, Garrison & Townsend 5, 6.
C. K. Dobyne No. 1 farm, Union Gas & Oil Co. 13.
C. K. Dobyne No. 2 farm, Union Gas & Oil Co. 3.
P. P. Holbrook, Union Gas & Oil Co. 33.
J. J. Gambill, Union Gas & Oil Co. 37.
L. P. Ferguson, Union Gas & Oil Co. 10.
Mrs. Proctor Smith, Union Gas & Oil Co. 29.
Sanford Lyon, Union Gas & Oil Co. 23.
C. E. Frailey, Union Gas & Oil Co. 7.
Rigs, 3; wells drilling, 17; total, 20.

JOHNSON-MAGOFFIN COUNTIES
Rigs

South Weir—
W. H. Collins, Petroleum Exploration 3.
J. D. Moore, R. G. Gillispie 3.
Wells Drilling
South Weir—
Wm. Prater, Structure Oil Co. 10.
W. S. Adams, Petroleum Exploration 23, 24, 25, 27.
Abe Caudill, Petroleum Exploration 35.
W. H. Conley, Red Rock Petroleum Co. 29.
Eliza Powers, Clyde Oil Co. 6.
Bailey heirs, Diamond Oil Co. 5.
Dan Harmon, Paintsville Oil Co. 6.
J. H. Gardner, New Domain Oil & Gas Co. 12.
Oscar Wheeler, Hudson & Collins 3.
Jessee Borders, O. J. Hamlin 2.
W. P. Adams, Oliver & Jenkins 7.
Martha Conley, Oliver & Jenkins 12.

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Sam Blanton, R. G. Gillispie 16, 17.
H. H. May, Short Fork Oil Co. 7.
Jess Adams, Model Oil Co. 4.
Julia Saylor, Magoffin Dev. Synd. 3.
F. M. Tackett, M. A. Wheeler 1.
Allen, Holbrook & Co. 1.
Wm. Howard, Virginia Gasoline Co. 2.
F. M. Frazier, Short Fork Oil Co. 2.
Julia Saylor, Kentucky-Indiana Oil Co. 4.
Spurlock, Atlantic Oil Prod. Co. 1.
Licking River, Fych Oil & Gas Co. 2.
Rigs, 2; wells drilling, 27; total, 29.

FLOYD COUNTY
Wells Drilling

Beaver Creek—
T. Collins, Yolondo Oil Co. 2.
John Martin, New Domain Oil & Gas Co. 5.
Wm. Martin, New Domain Oil & Gas Co. 3.
H. P. Martin, Ohio Fuel Oil Co. 2.
M. Martin, Ohio Fuel Oil Co. 2.
Tandy Martin, Louisville Gas & Electric Co. 3.
Mary Martin, Louisville Gas & Electric Co. 2.
Ike Osborne, Distell-Martin Oil & Gas Co. 1.
Manda Cooley, Eastern Carbon Black Co. 2.
Kate Spencer, Eastern Carbon Black Co. 2.
Summitt tract, American Roller Mills Co. 11, 12, 13.
Rigs, 0; wells drilling, 13; total, 13.

GREENUP COUNTY
Rigs

Greenup—
Head of Grassy Creek, Foreman & Co. 1.
Near Grassy Creek, Foreman & Co. 1.

Wells Drilling

Greenup—
Baglin, L. C. Young 1.
J. C. Roberts, Tom Hays 1.
Near Chenault well, Foreman & Co. No. 1.
Head of Grassy Creek, Patton & Deardoff 1.
On Iron Creek, unknown parties 1.
Robertson, Adams & Caudill 1.
Smoky Fork of Tygert Creek, Browning & Browning 1.
Rigs, 2; wells drilling, 7; total, 9.

MARTIN COUNTY
Wells Drilling

Inez—
Alfred Carter, Big Derby Oil & Gas Co. 2.
Mayo properties, Leonard & Ralph 5.
Rigs, 0; wells drilling, 2; total, 2.

MORGAN COUNTY
Wells Drilling

West Liberty—
Goose, Blue Hills Dev. Co. 4.
Rush branch, Petroleum Exploration Co. 1.
Near edge of West Liberty, Burns Oil & Gas Co. 1.
Rigs, 0; wells drilling, 4; total, 4.

TENNESSEE

CLAY-JACKSON COUNTIES
Rigs

Tinsley Bottom—
Hamp Lynn, Dafoe and associates 5.
Williams, Dafoe and associates 6.
Rich, Dixon & Cooksey 1.

Wells Drilling

Tinsley Bottom—
Osgathorpe, Dafoe and associates 1.
Draper, Dafoe and associates 3.
Spivey, E. C. Edenfield 1.
Brown, White Plains Oil & Gas Co. 1.
Marcum, Young & Young 1.
Hammond, Ackerman & Co. 1.
D. C. Mitchell, Reane & Co. 1.
Draper, Rex & Pyramid 2.
Arms, Young Oil Co. 1.
T. Hogan, McClintock, Reid & Heckathorne 1.
Rigs, 3; wells drilling, 10; total, 13.

MORGAN COUNTY
Wells Drilling

Sunbright—
Near Sunbright, Bonecamp Oil Co. 1.
Fee, Russell Dev. Co. 2.
Ellis, Russell Dev. Co. 1.
Fee, Galloway Co. 1.
Galloway, 500 acres, Louisa Co. 1.
Near Mill Springs, Toomey, Phelps & Co. 1.
Enright, Ensminger Synd. 1.
Rigs, 0; wells drilling, 7; total, 7.

FENTRESS COUNTY
Wells Drilling

Oneida—
Wolfe Creek, Phelps, Toomey & Anderson 1.
Alvin York, Pat Smith 1.
Rigs, 0; wells drilling, 2; total, 2.

OVERTON COUNTY
Wells Drilling

Livingston—
Three miles east of Livingston, A. H. Hisey 1.
Mitchell Creek, W. H. Boswell 1.
Rigs, 0; wells drilling, 2; total, 2.

PUTNAM COUNTY
Wells Drilling

Cookeville—
Double Springs, Clark & Co. 1, 2.
Rigs, 0; wells drilling, 2; total, 2.

MACON COUNTY
Wells Drilling

Bearfoot Creek—
Jim Haynes, Carson & Co. 1.

DICKSON COUNTY
Rig

Dickson—
Five miles south of Dickson, Oliver & Co. 1.

DE KALB COUNTY
Rigs

Liberty—
Unknown, local parties 1.
Four miles north of Liberty, M. B. Williams 1.

Wells Drilling

Liberty—
Overhall, local parties 1.
Unknown, local parties 1.
Rigs, 2; wells drilling, 2; total, 4.

FAYETTE COUNTY
Rig

Laconia—
Joe Perry, M. A. Strickland 1.

HARDEMAN COUNTY
Well Drilling

Bolivar—
Brown Sane, Spring Valley Oil Co. 1.

MISSISSIPPI
RANKIN COUNTY
Rig

Jackson—
Pearl River district, New York parties 1.

Well Drilling

Jackson—
7-3-3 Finkbine Lumber Co. 1.
Rigs, 1; wells drilling, 1; total, 2.

HOLMES COUNTY
Well Drilling

Coxburg—
18-13-1 Free Run Oil Co. 1.

SCOTT COUNTY
Well Drilling

Forest—
21-6-8 Graham, Mississippi Oil & Gas Synd. 1.

CLAIBORNE COUNTY
Wells Drilling

Port Gibson—
5-11-2 Bill Young, Mississippi Exploration Co. 1.
6-11-1 Westside, Michael Zink 1.
Rigs, 0; wells drilling, 2; total, 2.

HINDS COUNTY
Well Drilling

Jackson—
25-6-1 Mrs. Reeder, Jackson Oil Co. 1.

WASHINGTON COUNTY
Well Drilling

Glen Allen—
30-14-9, Williams, Alhambra Oil & Gas Co. 1.

TISHOMINGO COUNTY
Well Drilling

Iuka, unknown parties 1.

TALLAHATCHIE COUNTY
Well Drilling

Charleston—
23-25-2 Harvey, Shreveport parties.

MARSHALL COUNTY
Well Drilling

Holly Springs—
33-2-3 Huffman, T. B. Slick 2.

UNION COUNTY
Rig

New Albany, 10 miles northeast of New Albany, Jean De Villiard 1.

ALABAMA
MORGAN COUNTY
Well Drilling

Albany—
6-6-4 J. English, Albany-Decatur Oil Co. 1.

BALDWIN COUNTY
Well Drilling

Bay Minette—
21-2-3 R. A. Evans, Stoll & Co. 1.

SUMPTER COUNTY
Well Drilling

Cortopa, Sam W. Kendall 1.

HALE COUNTY
Well Drilling

Greenburg, Hale Oil Co. 1.

SHELBY COUNTY
Well Drilling

Chelsea—
Scott, Cooksey Oil Co. 1.

WILCOX COUNTY
Well Drilling

Selma, Blue Bells Oil Co. 1.

CLARKE COUNTY
Wells Drilling

Columbia, Intercoastal Oil Co. 1.
Keouchan Oil Co. 1.
Rigs, 0; wells drilling, 2; total, 2.

MADISON COUNTY
Well Drilling

Hunterville, P. J. Mahoney 1.

LAWRENCE COUNTY
Rig

Moulton, Tulsa parties 1.

GEORGIA
PULASKI ICOUNTY
Rig

Hawkensville, Florida-Georgia Cons. Co. 1.

JEFF DAVIS COUNTY
Well Drilling

Hazelhurst, Mid-Georgia Oil Co. 1.

TELFAIR COUNTY
Well Drilling

Scotland, Telfair Oil Co. 1.

BURKE COUNTY
Well Drilling

Green Cut, Three Creek Oil Co. 1.

WHITFIELD COUNTY
Well Drilling

Dalton, Richardson Oil & Gas Co. 1.

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Limestone-							
Freestone ..	2	0	2	0	3	11	14
Navarro	27	1,981	5	1	6	32	38
Miscellaneous..	3	0	3	0	1	26	27
Total July ..	32	1.981	10	1	10	69	79
Total June ..	41	3,177	9	4	13	69	82
Difference...	9	1,196	1	3	3	0	3

Wells Completed
LIMESTONE-FREESTONE COUNTIES

Crouch, Pure Oil 2 ..... dry
Stitts, Leek et al 1 ..... dry

Wells completed 2
Dry 2

NAVARRO COUNTY

Fleming, Humble O. & R. 6 48
Hill, Oxford Oil 2 250
Hill, Stoube & Stoube 3-B 250
Smith, Gulf Prod. 10 20
W. Smith, Gulf Prod. 6 35
W. Smith, Gulf Prod. 8 30
Fleming, Humble O. & R. 8-B ..... dry
Ramsey, Humble O. & R. 16-A 12
Kellum, Simms Oil 6 310
Phillips, Tidal Oil 14 ..... dry
Bailey, Andrews Pet. 1 ..... abd
Bailey, DeArmand Bros. 1 25
Smith, Gulf Prod. 1 25
W. Smith, Humble O. & R. 9 19
G. H. Kent, Humble O. & R. A-1 21
G. C. Kent, Humble O. & R. 19 ..... dry
Bailey, Roxana Pet. 3 30
Smith, Roxana Pet. 7 30
Jester, Garland Kent 1 ..... dry
Alison, Simms Oil 6 ..... dry
Stubbs, Graves et al 1 50
Hillburn, Gulf Prod. 2 192
Hillburn, Barclay & Meadows 2 150
Hillburn, Sun Oil 2 94
Hillburn, Sun Oil 1-A 140
Hillburn, Sun Oil 2-A 250
Swink, Sun Oil B-1 ..... gas

Completed 27
Production 1981
Dry 5
Gas 1
Gas production 10,000,000

MISCELLANEOUS

Kaufman County—
Thorp, Humphreys Oil 1 ..... dry
Milam County—
Smith, Sinclair O. & G. 1 ..... dry
Ashley, Beverly Oil 1 ..... dry

Completed 3
Dry 3

RIGS AND WELLS DRILLING
NAVARRO COUNTY
Rigs

Barry, Elliott & Nichols 1.
Harvard, McNeely & LaSuer 1.
Reese, Holt et al 1.
Hillburn, Gulf Prod. 3.
Hillburn, Gulf Prod. 4-A.
Longbotham, Snowden & McSweeney 13.

Wells Drilling

Greer, Gilbert Johnson et al 1.
Westbrook, Elliott & Nicolle 1*.
McKie, Pure Oil 67.
Cerf, Barclay & Meadows 1-A.
Davis, Humble O. & R. 18.
Fleming, Humble O. & R. 11-B.
Ramsey, Humble O. & R. 17-A, 28-B, 30-B.
Bailey, DeArmand Bros. 2.
Smith, Gulf Prod. 12.
Smith, Humble O. & R. 10.
Kent, Humble O. & R. 23.
Gentry, Skelly Oil 3.
Moore, E. L. Smith Oil Co. 1.
Moore & Banks, Moore et al 1.
Right-of-way, T. & B. V. Ry. 1-A.
Price, G. Kent 1.
Hines, Marnett O. & G. 1.
Elliott, Simms Oil 1.
Sneed, Kerr & Gillette 1*.
Talley, Atlantic O. P. 1.
Hillburn, Barclay & Meadows 3, 4.
Hillburn, Sun Oil 3.
Hillburn, Sun Oil 3-A.
Swink, Sun Oil 1.
Laird, King State Oil 1.
Quinby, Moore Bros. 1.
Bounds, Stretman et al 1.
Phipps, Oxford Oil 2.
Morrow, Atlantic O. P. 3.
Rigs, 6; wells drilling, 32; total, 38.

LIMESTONE-FREESTONE COUNTIES
Rigs

Bounds, Patterson Lake Oil 1.
Stockton, Pure Oil 1.
Bates, Kerr & Gillette 1.

Wells Drilling

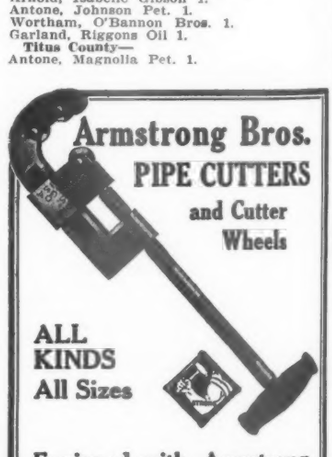
Pickens, Kechi Pet. 1*.
Crouch, Pure Oil 2*.
Right-of-way, Rio Bravo 14.
Stubbs, Humble O. & R. A-6.
Wright, Pure Oil 1.
Richardson, Wells et al 1.
Sanders, Yoder et al 1.
Thompson, Swearingen et al 1.
Kennedy, Magnolia Pet. 1.
Gill, Huddleston et al 1.
Jones, E. L. Smith Oil 1.
Rigs, 3; wells drilling, 11; total, 14.

MISCELLANEOUS
Rigs

Van Zandt County—
Marland Oil 1.

Wells Drilling

Parker, J. E. Williams 2.
Brooks & Auld, Rosser et al 1.
Monning Plant, Palestine O. & G. 1.
Bowie County—
Parkey, Dalby Springs Oil 1.
Rochelle, DeLaney O. & G. 1.
Cass County—
Evans, Caldwell et al 1.
Cherokee County—
Falls County—
Thompson, Harrison et al 1.
Peacock, High Banks Oil 1.
Williams, Reiter & Foster 1.
Henderson County—
Bounds, F. Haynes 1.
Hopkins, Brooks, Kelsey et al 1.
Hunt County—
Barnett, Tidal & Kelsey 1.
Milam County—
Woodall, Butler Boys 1.
Isaacs, John E. Lee 1.
Kine, Magnolia Pet. 1.
Rains County—
Peoples, Cree & Coulter 1.
Red River County—
Dinviddle, Clarksville Texas Co. 1.
Arnold, Isabelle Gibson 1.
Antone, Johnson Pet. 1.
Wortham, O'Bannon Bros. 1.
Garland, Riggons Oil 1.
Titus County—
Antone, Magnolia Pet. 1.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For Alphabetical Index See Page 17

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Braun, C. F. & Co.
Cooper, C. & G. Co.
Griscom-Russell Co.
Kaw Boiler Works Co.
Newton Process Mfg. Co.
Tulsa Boiler & Machinery Co.

Absorption Towers—
Hope Engineering & Supply Co.
Newton Process Mfg. Co.
Petroleum Iron Works Co.

Acetylene Apparatus—
Oxweld Acetylene Co.

Acetylene—Dissolved—
Prest-O-Lite Co., Inc.

Acetylene in Cylinders—
Prest-O-Lite Co., Inc.

Agitators—
Chicago Bridge & Iron Works
Petroleum Iron Works Co.

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Aluminum Company of America

Ammonia Compressors (See Compressors—Ammonia)—

Anchor Clamps (See Clamps)

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Westinghouse Electric & Mfg. Co.

Appraisers—
American Appraisal Co.

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Johns-Manville, Inc.

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B

Back Up Tongs (See Tongs)—

Ballers—
Bridgeport Machine Co.
Spang & Co.

Balls and Seats—
Axelson Machine Co.
Bradford Motor Works
Hough, Chas. N. Mfg. Co.
Norris Brothers, Inc.
Northrup Equipment Co.

Balls—Bronze—
Atlas Ball Co.

Balls—Steel—
Strom Steel Ball Co.

Band Wheels—Steel—
International Derrick & Equipment Co.
Moore, Lee C. & Co., Inc.
Parkersburg Rig & Reel Co.

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Batteries—
National Carbon Co.

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Atlas Ball Co.

Belting—
Bridgeport Machine Co.
Fenwick Reddaway Mfg. Co.
Frick-Reid Supply Co.
Imperial Belting Co.
International Supply Co.
Lufkin Foundry & Machine Co.
Stanley Belting Corp.

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Belt Lacing—
Flexible Steel Lacing Co.

Bits—Disc—
U. S. Tool Co.

Bits—Fish Tail—
Federal Supply Co.
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Hughes Tool Co.

Bits—Rotary Rock—
Hughes Tool Co.
Reed Roller Bit Co.

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Regan Forge & Engineering Co.

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Bovaird & Seyfang Mfg. Co.
Bridgeport Machine Co.
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International Supply Co.
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Swartwout Co.
Truscon Steel Co.

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Burners—Gas
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Reid, Joseph, Gas Engine Co.

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Wilson Oil Tools Corp.

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Cable Bit Steel—
Federal Supply Co.
Heppenstall Forge & Knife Co.

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Ajax Rope Co., Inc.
Columbian Rope Co.
Frick-Reid Supply Co.
Republic Supply Co.
Wall Rope Works, Inc.

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Broderick & Bascom Rope Co.
Bridgeport Machine Co.
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Hazard Mfg. Co.
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National Supply Co.
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Columbian Rope Co.

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Columbian Steel Tank Co.

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Diamond Drill Carbon Co.

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North American Car Co.

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National Supply Co.
National Tube Co.
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Sivyer Steel Casting Co.

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Hills-McCanna Co.

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Fort Pitt Steel Casting Co.
Sivyer Steel Casting Co.

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Miller Improved Gas Engine Co.

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Landis Machine Co.

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Landis Machine Co.
Nye Tool & Machine Works
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Drillers Hose (See Hose)—

Drilling and Fishing Tools—
Acme Fishing Tool Co.
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International Supply Co.
Larkin & Co.
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Lucey Mfg. Corp.
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Reed Roller Bit Co.
Regan Forge & Engineering Co.
Spang & Co.
Star Drilling Machine Co.
U. S. Tool Co.
Wirth, Alfred, & Co.

Drilling Engines (See Engines)—

Drilling Equipment—
Clark Brothers Co.
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O'Brien Steel Construction Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Wirth, Alfred, & Co.

Drilling Gate Valves (See Valves)—

Drilling Machines—
Bridgeport Machine Co.
Leidecker Tool Co.
Oil Well Supply Co.
Star Drilling Machine Co.

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Chicago Pneumatic Tool Co.

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Dynamos—
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Wico Electric Co.

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Bovaird Supply Co.
Bridgeport Machine Co.
Dunn Mfg. Co.
Lucey Mfg. Corp.
Wilson Oil Tools Corp.

Elevators—Rod—
Foggan, Geo. N.

Enamels—
Sherwin-Williams Co.

Engineers—Consulting and Contracting—
Hope Engineering & Supply Co.
Kellogg, M. W. Co.
Power Specialty Co.
Westcott & Greis

Engineers—Fire Protection—
Foamite-Childs Corp.

Engineers—Oil Buildings—
Austin Co.
International Derrick & Equipment Co.

Engineers—Oil Treating—
Barnickel, Wm. S. & Co.

Engines—Crude Oil—
Fulton Iron Works
Power Mfg. Co.
Western Machinery Co.

Engines—Diesel—
Bessemer Gas Engine Co.
Busch Sulzer Bros. Diesel Engine Co.
Foos Gas Engine Co.
Fulton Iron Works
McIntosh & Seymour Corp.
Western Machinery Co.
Worthington Pump & Machinery Corp.

Engines—Drilling—
Ajax Iron Works
Bessemer Gas Engine Co.
Bovaird & Seyfang Mfg. Co.
Buffalo Gasolene Motor Co.
Clark Brothers Co.
Continental Supply Co.
Franklin Valveless Engine Co.
Hercules Motor Corp.
Lufkin Foundry & Machine Co.
Pattin Brothers Co.
Power Mfg. Co.
Republic Supply Co.
Titusville Iron Works Co.

Engines—Gas—
Bessemer Gas Engine Co.
Buffalo Gasolene Motor Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Cooper, C. & G Co.
Foos Gas Engine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Miller Improved Gas Engine Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pattin Brothers Co.
Reid, Joseph, Gas Engine Co.
Titusville Iron Works Co.
Western Machinery Co.

Engines—Gasoline—
Buda Co.
Buffalo Gasolene Motor Co.
Climax Engineering Co.
Continental Motors Corp.
Fairbanks Morse & Co.
Foos Gas Engine Co.
Novo Engine Co.
Waukesha Motor Co.
Western Machinery Co.

Engines—Oil—
Bessemer Gas Engine Co.
Fairbanks-Morse & Co.
Franklin Valveless Engine Co.
Fulton Iron Works
McIntosh & Seymour Corp.
National Supply Co.
Oil Well Supply Co.
Reid, Joseph, Gas Engine Co.
Western Machinery Co.

Engines—Rotary Steam—
Baker Motors, Inc.

Engines—Semi-Diesel, Oil—
Chicago Pneumatic Tool Co.
De La Vergne Machine Co.
Power Manufacturing Co.

Engines—Steam—
Ajax Iron Works
Baker Motors, Inc.
Frick-Reid Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.

Evaporators—
Newton Process Mfg. Co.

Expansion Pistons (See Pistons)—

Extinguishers—Fire—
Foamite-Childs Corp.
Amdyco Corporation.

F

Fence—Chain Link—
Page Fence & Wire Products Ass'n.

Filters—
Metric Metal Works

Fire Brick (See Brick)—

Fire Extinguishers (See Extinguishers)—

Fishing Tools (See Drilling and Fishing Tools)—

Fish Tail Bits (See Bits)—

Fittings—Dropped Forged Steel—
Carbondale Machine Co.
Vogt, Henry Machine Co.

Fittings—Malleable & Cast Iron—
Bovaird Supply Co.
Crane Co.
Frick-Reid Supply Co.
Kelly & Jones Co.
Walworth Mfg. Co.

Fittings—Pipe—
American Cast Iron Pipe Co.
D. & B. Pump & Supply Co.
Dayton Pipe Coupling Co.
Dresser, S. R. Mfg. Co.
Gaso Pump & Burner Mfg. Co.
Kellogg, M. W. Co.
Kennedy Valve Mfg. Co.
Lufkin Foundry & Machine Co.
Metric Metal Works
Reading Steel Casting Co.
Republic Supply Co.
United Iron Works, Inc.

Fittings—Steel—
Dayton Pipe Coupling Co.
Ohio Steel Foundry Co.
Pittsburgh Reinforced Brazing & Machine Co.

Flanges—Brass, Iron and Steel—
Kelly & Jones Co.
Metric Metal Works

Flange Unions—
Gaso Pump & Burner Mfg. Co.
Kelly & Jones Co.

Flashlights—
National Carbon Co.

Floating Roofs and Decks—
Chicago Bridge & Iron Works
Columbian Steel Tank Co.

Floodlights—
Pyle-National Co.

Floor Circle Braces (See Braces)—

Force Feed Lubricators (See Lubricators)—

Forging Billets—
Harrisburg Pipe & Pipe Bending Co.
Heppenstall Forge & Knife Co.

Forgings—
Champion Machine & Forging Co.

Friction Clutch Pulleys (See Pulleys)—

Fuel Oil (See Oil—Fuel)—

G

Gas and Oil Gate Valves (See Valves)—

Gas Compressors (See Compressors—Gas)—

Gas Engines(See Engines—Gas)—

Gas Meters (See Meters)—

Gas Oil (See Oil—Gas)—

Gaskets—
Garlock Packing Co.
McCord Radiator & Mfg. Co.

Gasoline—
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.

Gasoline—Natural—
Chestnut & Smith Corp.

Gasoline Meters (See Meters)—

Gasoline Plant Equipment—
Bessemer Gas Engine Co.
Clark Brothers Co.
Gaso Pump & Burner Mfg. Co.
Kellogg, M. W. Co.
Newton Process Mfg. Co.

Gas Masks & Safety Appliances—
Mine Safety Appliances Co.

Gas Regulator Casinghead—
Davis Regulator Co.

Gas Regulators—
Chaplin Fulton Mfg. Co.
Davis Regulator Co.
Fisher Governor Co.
Metric Metal Works
Smith Separator Co.

Gas Scrubbers—
Newton Process Mfg. Co.

Gauge Poles—
Marsh Gauge Pole Co.

Gauges—Automatic Tank—
Oil Conservation Engineering Co.

Gauges—Pressure and Vacuum—
Bristol Co.
Foxboro Co., Inc.
Metric Metal Works

Gauges—Test—
Metric Metal Works

Gear Driven Pumps (See Pumps)—

Gears—
Nuttall, R. D., & Co.

Generators—
Westinghouse Electric & Mfg. Co.

Generators—Acetylene—
Oxweld Acetylene Co.

Generators—Steam—
Baker Motors, Inc.

Generators—Turbine—
Pyle-National Co.
Westinghouse Electric & Mfg. Co.

Glass Bottles (See Bottles, Glass)—

Glassware—Chemical for Laboratory Use—
Illinois Glass Co.

Governors—
Gardner Governor Co.

Governors—Boiler Feed—
Chaplin-Fulton Mfg. Co.
Fisher Governor Co., Inc.

Grey Iron Castings (See Castings)—

H

Hammers—Chipping and Calking Pneumatic—
Chicago Pneumatic Tool Co.

Hammers—Riveting, Pneumatic—
Chicago Pneumatic Tool Co.

Hatches—Gauge and Thief—
Oil Conservation Engineering Co.

Heat Exchangers—
Carbondale Machine Co.
Griscom-Russell Co.
Hope Engineering & Supply Co.
Newton Process Mfg. Co.

Heat Interchangers—Fluid—
Braun, C. F. & Co.

Heat Treatment for Cleaning Out Flow Lines, Tanks, Etc.—
Berwald Chemical Co.

High Pressure Gate Valves (See Valves—

Hoists—Pneumatic, Geared and Universal—
Chicago Pneumatic Tool Co.
Yale & Towne Mfg. Co.

Hoists—Portable—
Wright Manufacturing Co.
Yale & Towne Mfg. Co.

Hose—
Fenwick-Reddaway Mfg. Co.

Hose—Drillers—
Goodrich, B. F., Rubber Co.

Hose—Oil Suction and Discharge—
Goodrich, B. F., Rubber Co.

Hose—Rubber—
Goodyear Tire & Rubber Co.

Hot Rolled Strip Steel (See Steel)

Hydraulic Gate Valves (See Valves)—

Hydraulic Jacks (See Jacks)—

I

Insulation Materials—
Celite Products Co.
Johns-Manville, Inc.

Insurance—Fire—
Oil Insurance Association.

Insurance—Tornado—
Oil Insurance Association.

J

Jacks—Hydraulic—
Bridgeport Machine Co.

Jacks—Lifting—
Templeton, Kenly & Co., Ltd.

Jacks—Pumping—
American Well Works
Bessemer Gas Engine Co.
Braden Co.
Frick-Reid Supply Co.
Kansas City Hay Press Co.
Spang & Co.

Jars—
Bridgeport Machine Co.
Spang & Co.

Jar Steel—
Heppenstall Forge & Knife Co.

K

Kerosene—
Acme Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.

L

Lacquers—
Sherwin-Williams Co.

Lanterns—Electric—
Delta Electric Co.

Lead in Oil—
Eagle Picher Lead Co.
National Lead Co.

Lifting Jacks (See Jacks)—

Lighting Equipment—
Climax Engineering Co.
Pyle-National Co.
Westinghouse Electric & Mfg. Co.

Liquid Level Controls (See Controllers)—

Litharge—
Eagle-Picher Lead Co.
National Lead Co.

Loaders—Trucks—
Barber-Greene Co.

Long Distance Telephone—
American Telephone & Telegraph Co.

Lubricating Devices—
Essex Brass Co.

Lubricating Oils (See Oils)—

Lubricators—
Ajax Iron Works

Lubricators—Force Feed—
Essex Brass Co.
Manzel Brothers Co.
McCord Radiator & Mfg. Co.

M

Machine Tools—
Ryerson, Jos. T., & Son, Inc.

Manholes—Tank—
Oil Conservation Engineering Co.

Manifolds—
Reid, Joseph, Gas Engine Co.

Metal Buildings Sectional (All Types) (See Buildings)—

Meters—Gas—
Foxboro Co., Inc.
Metric Metal Works
Pittsburgh Meter Co.
Roots, P. H. & F. M., Co.
Westcott & Greis

Meters—Gasoline—
Pittsburgh Meter Co.

Meters—Oil—
Pittsburgh Meter Co.

Molded Goods—Rubber
Goodyear Tire & Rubber Co.

Motor Controlled Apparatus (See Apparatus—Motor Control)—

Motors—Electric—
Fairbanks-Morse & Co.
Westinghouse Electric & Mfg. Co.

Motors—Gasoline (See Engines—Gasoline)—

Motor Trucks (See Trucks)—

N

Naphtha—
Pure Oil Co.

Natural Gasoline (See Gasoline—Natural)—

Natural Gasoline Plant Equipment—
American Tank Co.
Chaplin-Fulton Mfg. Co.
Continental Supply Co.
Cooper, C. & G., Co.
Griscom-Russell Co.
Roots, P. H. & F. M., Co.
Smith Separator Co.
Westcott & Greis

Nitrogen—
Linde Air Products Co.

O

Oil and Gas Pipe Line Construction—
Hope Engineering & Supply Co.

Oil Burners (See Burners—Oil)—

Oil Engines Semi-Diesel (See Engines—Semi-Diesel Oil)—

Oil Field Equipment—
Baash-Ross Tool Co.
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Co.
Cunningham Co.
Gaso Pump & Burner Mfg. Co.
International Derrick & Equipment Co.
Iron King Mfg. Co.
Jarecki Mfg. Co.
Kaw Boiler Works Co.
National Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co
Reid, Joseph, Gas Engine Co.
Republic Supply Co.
Trumble Gas Trap Co.

Oil Filters—
Burt Mfg. Co.

Oil—Fuel—
Acme Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
The Texas Co.

Oil—Gas—
Acme Petroleum Co.
Gulf Refining Co.
Pure Oil Co.
Sinclair Refining Co.
The Texas Co.

Oil—Lubricating—
Barnsdall Refining Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pennzoil Co.
Pure Oil Co.
Sinclair Refining Co.
The Texas Co.

Oil—Tractor—
Barnsdall Refining Co.
Gulf Refining Co.
Pennzoil Co.
Pure Oil Co.

Oiling Devices—
Lunkenheimer Co.

Oil Meters (See Meters)—

Oil Piping Equipment (See Fittings)—

Oil Reclaiming Process—
Barnickel, Wm. S., & Co.
Houston Pump & Supply Co.

Oil Refinery Equipment (See Refinery Equipment)—

Oil Savers—
Arbon, Paul, & Co.
Oil Well Improvements Co.

Oil Securities (See Securities)—

Oil Suction and Discharge Hose (See Hose)—

Oil Testing Instruments—
Tagliabue, C. J., Mfg. Co.

Oil Well Cementing—
Halliburton, Erle P.

Oil Well Screens (See Screens)—

Oil Well Tools—
Dunn Mfg. Co.
Hinderliter Tool Co.
Reed Roller Bit Co.
Star Drilling Machine Co.
Titusville Forge Co.
U. S. Tool Co.

Over Shots—
Reed Roller Bit Co.
Regan Forge & Engineering Co.

Oxygen—
Linde Air Products Co.

P

Packer Release—
Acme Fishing Tool Co.

Packers—
Goodyear Tire & Rubber Co.
Guiberson Corp.
Larkin & Co.
Layne & Bowler Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Spang & Co.

Packing—
Black Sivalls & Bryson
Garlock Packing Co.
Goodrich, B. F., Rubber Co.
Imperial Belting Co.
Johns-Manville, Inc.

Paints—
Aluminum Company of America
Continental Supply Co.
Cook Paint & Varnish Co.
Detroit Graphite Co.
Sherwin-Williams Co.

Paraffin Wax Plant Equipment—
Carbondale Machine Co.

Pipe—Cast Iron—
American Cast Iron Pipe Co.
Continental Supply Co.
Greenspon's, Jos., Sons Iron & Steel Co.
International Supply Co.
National Tube Co.
U. S. Cast Iron Pipe Fdy. Co.

Pipe—Steel—
Kellogg, M. W. Co.
National Supply Co.
Republic Iron & Steel Co.
South Chester Tube Co.
Superior Tube Co.

Pipe—Wrought Iron—
Frick-Reid Supply Co.
National Tube Co.
Oil Well Supply Co.
Reading Iron Co.
Superior Tube Co.

Pipe and Nipple Threading Machines—
Bignall & Keeler Machine Wks.
Jarecki Mfg. Co.
Landis Machine Co.
Standard Engineering Co.

Pipe Clamps (See Clamps—Pipe)

Pipe Fittings (See Fittings)—

Pipe Grips—
Larkin & Co.

Pipe Headers—
National Tube Co.
Newton Process Mfg. Co.

Pipe Line Construction Tools—
National Transit Pump & Machine Co.

Pipe Line Ditchers (See Ditchers)

Pipe Line Equipment—
Gaso Pump & Burner Mfg. Co.

Pipe Screwing Machines
Buckeye Traction Ditcher Co.

Pipe Threading Dies (See Dies)—

Pipe Tools—
Armstrong Brothers Tool Co.
Nye Tool & Machine Works

Piping—Fabricated—
Midwest Piping & Supply Co.

Piping—Steel and Iron—
Crane Co.
Power Piping Co.
United Iron Works

Pistons—
Guiberson Corp.
Heppenstall Forge & Knife Co.

Pistons—Expansion—
Wilson Oil Tools Corp.

Pistons—Slush Pump—
Arbon, Paul, & Co.
Guiberson Corp.

Plain End Pipe Couplings (See Couplings—Plain End Pipe)—

Plugs—Bottom Water—
Guiberson Corp.

Polish Rods (See Rods—Polish)—

Portable Drilling Rigs (See Rigs)—

Power Puller—
Jones Oil Well Reamer Co.

Power Pumps (See Pumps)—

Power Units—Portable (See Engines)—

Pre-Heaters—
Newton Process Mfg. Co.

Pulleys—Casing—
Bridgeport Machine Co.

Pulleys—Friction Clutch—
Havana Mfg. Co.

Pulling Machines—
Iron King Mfg. Co.
National Supply Co.
Safety Pulling Machine Co.

Pumping and Pulling Motors—Electric—
Westinghouse Electric & Mfg. Co.

Pumping Equipment—
American Well Works
Axelson Machine Co.
Gould & Mfg. Co.
Myers, F. E., Bro. & Co.
Oil Well Supply Co.
Prescott Co.

Pumping Hangers—
Bridgeport Machine Co.

Pumping Jacks (See Jacks)—

Pumping Powers—
Barnes Mfg. Co.
Bessemer Gas Engine Co.
Climax Engineering Co.
Frick-Reid Supply Co.
Kansas City Hay Press Co.
National Supply Co.
Oil Well Supply Co.
Pattin Brothers Co.
Reid, Joseph, Gas Engine Co.
Spence Machine Co.
Titusville Iron Works Co.

Pumps—Air Lift—
Gardner Governor Co.
Ingersoll-Rand Co.

Pumps—Boiler Feed—
Ajax Iron Works
Fairbanks-Morse & Co.
Worthington Pump & Machinery Corp.

Pumps—Centrifugal—
American Well Works
Fairbanks-Morse & Co.
Worthington Pump & Machinery Co.

Pumps—Direct Driven—
Bessemer Gas Engine Co.

Pumps—Fuel Oil Service—
Blackmer Rotary Pump Co.

Pumps—Gear Driven—
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
Prescott Co.

Pumps—Pipe Line—
Frick-Reid Supply Co.
National Transit Pump & Machine Co.
Prescott Co.
Worthington Pump & Machinery Corp.

Pumps—Power—
Dean Brothers Co.
Fairbanks-Morse & Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Myers, F. E., Bro. & Co.
National Transit Pump & Machine Co.
Prescott Co.
Worthington Pump & Machinery Corp.

Pumps—Refinery—
Gaso Pump & Burner Mfg. Co.
Kinney Mfg. Co.
National Transit Pump & Machine Co.
Worthington Pump & Machinery Corp.

Pumps—Rotary—
Blackmer Rotary Pump Co.
Roots, P. H. & F. M., Co.

Pumps—Sand—
Bridgeport Machine Co.
Larkin & Co.

Pumps—Slush—
Gardner Governor Co.

Pumps—Steam—
Dean Brothers Co.
Fairbanks-Morse & Co.
Frick-Reid Supply Co.
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
National Transit Pump & Machine Co.
Vogt Brothers Mfg. Co.

Pumps—Suction—
Gaso Pump & Burner Mfg. Co.

Pumps—Vacuum—
Bessemer Gas Engine Co.
Clark Brothers Co.
Gaso Pump & Burner Mfg. Co.
Miller Improved Gas Engine Co.
Roots, P. H. & F. M., Co.
Worthington Pump & Machinery Corp.

Pumps—Water—
American Well Works
Gaso Pump & Burner Mfg. Co.

R

Ratchet Pipe Cutters—
Toledo Pipe Threading Machine Co.

Ratchet Pipe Threaders—
Toledo Pipe Threading Machine Co.

Ratchet Stocks and Dies—
Toledo Pipe Threading Machine Co.

Ratchet Wrenches (See Wrenches)

Reamers—
Bridgeport Machine Co.
Jones Oil Well Reamer Co.

Receiving Boxes—
Reid, Joseph, Gas Engine Co.

Recorders—Differential Pressure—
Metric Metal Works

Refinery Equipment—
American Radiator Co.
Braun, C. F. & Co.
Carbondale Machine Co.
Chicago Bridge & Iron Works
Graver Corp.
Griscom-Russell Co.
Kaw Boiler Works Co.
Kellogg, M. W. Co.
Newton Process Mfg. Co.
Power Piping Co.
Power Specialty Co.
Ross-Meehan Foundries
Reid, Joseph, Gas Engine Co.
Smith Separator Co.
Universal Oil Products Co.
Vogt, Henry, Machine Co.
Walsh & Weidner Boiler Co.
Westcott & Greis

Refinery Pumps (See Pumps)—

Refractories—Furnace, Stills and Baffles—
Botfield Refractories Co.

Refrigerating Machinery—
Carbondale Machine Co.
Climax Engineering Co.
Vogt, Henry, Machine Co.

Regulators—
Chaplin-Fulton Mfg. Co.
Fisher Governor Co., Inc.
Oil Conservation Engineering Co.
Smith Separator Co.

Rental Service—
Bridgeport Machine Co.

Reversible Clutches—
Bessemer Gas Engine Co.

Rig Contractors (See Contractors)

Rig Irons—
Bradford Rig & Reel Co.
International Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Rigs—Drilling, All Steel—
Carnegie Steel Co.
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Rigs—Portable Drilling—
National Supply Co.
National Turnbuckle Derrick Co.
Star Drilling Machine Co.

River Clamps (See Clamps)—

Rods—Polish—
Bradford Motor Works

Rods—Pull—
Axelson Machine Co.
Columbus Sucker Rod Co.
Kansas City Bolt & Nut Co.

Rods—Sucker—
Axelson Machine Co.
Columbus Sucker Rod Co.
D. & B. Pump & Supply Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Bolt & Nut Co.
National Supply Co.
Republic Supply Co.

Roofing—
Johns-Manville, Inc.

Roofing Tin Plates (See Tin Plates—Roofing)—

Rope—Manila—
Ajax Rope Co., Inc.
Bovaird Supply Co.
Republic Supply Co.
Wall Rope Works, Inc.

Rope—Wire—
American Cable Co.
Bovaird Supply Co.
Broderick & Bascom Rope Co.
Bridgeport Machine Co.
International Supply Co.
Leschen, A., & Sons Wire Rope Co.
Wickwire-Spencer Steel Corp.

Rotary Bit Steel—
Heppenstall Forge & Knife Co.

Rotary Disc Bits (See Bits)—

Rotary Drilling Equipment—
Climax Engineering Co.
Continental Supply Co.
Frick-Reid Supply Co.
International Derrick & Equipment Co.
Link-Belt Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Rotary Drive Bushings (See Bushings—Rotary Drive)—

Rotary Lines (See Rope—Wire)—

Rotary Post—
Reed Roller Bit Co.

Rotary Rock Bits (See Bits)—

Rotary Tool Joints—
Bartlesville Supply Co.
Hughes Tool Co.

Rotary Ventilators—
Swartwout Co.

Rubber Belting (See Belting)—

Rubber Hose (See Hose)—

Run Down Tanks (See Tanks)—

Rust Preventives—
Dearborn Chemical Co.

S

Sand Line Cups—
Oil Well Improvements Co.

Sand Lines—Wire—
Broderick & Bascom Rope Co.
Wickwire-Spencer Steel Corp.

Sand Pumps (See Pumps—Sand)

Screens—Oil Well—
Layne & Bowler Co.

Screens—Water Well—
Layne & Bowler Co.

Screws—Temper—
Arbon, Paul, & Co.
Burns Tool Co.

Seamless Steel Couplings (See Couplings—Seamless Steel)

Securities—Oil—
Pforzheimer, Carl H., & Co.

Separators—Centrifugal—
Miller, Max B., & Co.

Separators—Oil and Gas
American Tank Co.
Smith Separator Co.

Sheets—
American Steel Band Co.

Sheets—Blue Annealed—
Kansas City Bolt & Nut Co.

Sheets — Corrugated, Black and Galvanized—
American Sheet & Tin Plate Co.
American Steel Band Co.

Sheets—Steel—
American Sheet & Tin Plate Co.
Republic Iron & Steel Co.

Shovels—
Ames Shovel & Tool Co.

Sleeves—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Sleeves—Split—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Slush Pump Pistons (See Pistons)—

Slush Pumps (See Pumps)—

Smoke Stacks—
Donovan Boiler Works

Sockets—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Spang & Co.

Spears—
Acme Fishing Tool Co.

Special Steel (See Steel—Special)

Split Sleeves (See Sleeves)—

Sprockets—Power Transmission—
Ajax Iron Works
Chain Belt Co.

Stationary Pipe Threading Die Heads (See Die Heads)—

Steam Pumps—(See Pumps)—

Steel—All Kinds—
Ryerson, Jos. T., & Sons. Inc.

Steel—Alloy—
Central Steel Co.

Steel—Bit—
Central Steel Co.

Steel—Hot Rolled Strip—
Central Steel Co.

Steel—Special—
Central Steel Co.

Steel Band Wheels (See Band Wheels—Steel)—

Steel Bridges (See Bridges)—

Steel Bull Wheels (See Bull Wheels—Steel)—

Steel Castings (See Castings)—

Steel Couplings for Casing, Line Pipe, Drill Pipe and Tubing (See Couplings)—

Steel Crown Blocks (See Crown Blocks)—

Steel Derricks (See Derricks)—

Steel Fabricators—Structural—
Austin Co.
Braden Co.
Graver Corp.
International Derrick & Equipment Co.
Pittsburgh-Des Moines Steel Co.

Steel Fittings (See Fittings)—

Steel Pitmans—
International Derrick & Equipment Co.
Moore, Lee C., & Co.
Slater Brothers Turnbuckle Derrick Co.

Steel Plate Construction—
Graver Corp.
Tulsa Boiler & Machinery Co.
Vogt, Henry, Machine Co.

Steel Sheets—(See Sheets, Steel)—

Steel Valves (See Valves—Steel)—

Steel Walking Beams (See Walking Beams—Steel)—

Steel Wheels and Tug Rims—
Carnegie Steel Co.
International Derrick & Equipment Co.

Stills—
Blaw-Knox Co.
Chicago Bridge & Iron Works
Graver Corp.
Kellogg, M. W. Co.
Newton Process Mfg. Co.
Petroleum Iron Works Co.
United Iron Works, Inc.
Vogt, Henry, Machine Co.

Stocks and Dies—
Toledo Pipe Threading Machine Co.

Structural Steel Fabricators (See Steel Fabricators)—

Stuffing Boxes—
Axelson Machine Co.
Kansas City Hay Press Co.

Sucker Rods (See Rods—Sucker)—

Suction Pumps—(See Pumps)—

Swabs—
Arbon, Paul, & Co.
Guiberson Corp.
Hoffman Mfg. Co.

Swedge Nipples—
Dresser, S. R., Mfg. Co.
Harrisburg Pipe & Pipe Bending Co.

Swing Joints—
Oil Conservation Engineering Co.

Swivels—
Layne & Bowler Co.
Lucey Mfg. Corp.
Titusville Iron Works Co.

T

Tank Cars (See Cars—Tank)—

Tank Cars Leased (See Cars)—

Tank Equipment—
Oil Conservation Engineering Co.
Westcott & Greis

Tanks—Bolted—
American Tank Co.
Black Sivalls & Bryson
Butler Mfg. Co.
Gantz Tank Co.
Maloney Tank Mfg. Co.
Parkersburg Rig & Reel Co.

Tanks—Bulk Station—
Columbian Steel Tank Co.
Graver Corp.

Tanks—Cylindrical—
Chicago Bridge & Iron Works

Tanks—Elevated Steel—
Chicago Bridge & Iron Works

Tanks—Field Storage—
American Car & Foundry Co
American Tank Co.
Black Sivalls & Bryson
Donovan Boiler Works
Graver Corp.
Kaw Boiler Works Co.
Kewanee Boiler Co.
Maloney Tank Mfg. Co.
Pittsburgh-Des Moines Steel Co.
Tulsa Boiler & Machinery Co.
United Iron Works, Inc.

Tanks—Horizontal Storage—
Black Sivalls & Bryson
Columbian Steel Tank Co.
Graver Corp.
Maloney Tank Mfg. Co.
Petroleum Iron Works Co.

Tanks—Run Down—
Black Sivalls & Bryson
Donovan Boiler Works
Graver Corp.
Newton Process Mfg. Co.
Pioneer Tank & Boiler Co.

Tanks—Truck—
American Tank Co.
Butler Mfg. Co.
Columbian Steel Tank Co.
White Co.

Tanks—Underground—
Black Sivalls & Bryson
Butler Mfg. Co.
Columbian Steel Tank Co.
Graver Corp.
Kewanee Boiler Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co
Tulsa Boiler & Machinery Co.

Tanks—Welded—
American Tank Co.
Chicago Bridge & Iron Works
Gantz Tank Co.

Tanks—Wooden—
Black Sivalls & Bryson

Taper Taps—
Hughes Tool Co.

Tapes—Measuring for Oil Gauging—
Lufkin Rule Co.

Tee Casing Heads (See Casing Heads)—

Temperature Controllers (See Controllers—Temperature)—

Temper Screws (See Screws)—

Thermometers, Indicating and Recording—
American Schaeffer & Budenberg Corp.
Bristol Co.
Foxboro Co., Inc.
Tagliabue, C. J., Mfg. Co.
Taylor Instrument Co.

Threading Machines—
Bignall & Keeler Machine Wks.
Landis Machine Co.

Thread Protectors—
Spang & Co.

Tin Plates—Bright—
American Sheet & Tin Plate Co.

Tin Plates—Roofing—
American Sheet & Tin Plate Co.

Tires—Automobile—
Continental Supply Co.

Tires—Pneumatic & Solid—
Kelly Springfield Tire Co.

Tires—Truck—
Kelly-Springfield Tire Co.

Tongs—
Bridgeport Machine Co.
Dunn Mfg. Co.
Wilson Oil Tools Corp.

Tongs—Back Up—
Williams, J. H., & Co.

Tongs—Break Out—
Reed Roller Bit Co.
Williams, J. H., & Co.

Tongs—Casing—
Guiberson Corp.

Tongs—Chain Pipe—
Williams, J. H., & Co.

Tongs—Pipe—
National Transit Pump & Machine Co.

Tongs—Tool Joint—
Guiberson Corp.
Hughes Tool Co.
Reed Roller Bit Co.

Tool Joints—
Bridgeport Machine Co.
Hughes Tool Co.
Lucey Mfg. Corp.
Regan Forge & Engineering Co.

Tool Joint Tongs (See Tongs)—

Tools—Fishing and Drilling (See Drilling and Fishing Tools)—

Tools — Oil Well Drilling (See Drilling and Fishing Tools)—

Torches—
Oxweld Acetylene Co.

Tractor Oil—(See Oil—Tractor)—

Tractors—
International Harvester Co. of America

Transmission Belt—Rubber—
Goodrich, B. F., Rubber Co.

Transmission Lining—
Stanley Belting Corp.

Traveling Block—
Lucey Mfg. Corp.
Regan Forge & Engineering Co.
Wright Manufacturing Co.

Trenchers—Vertical Boom—
Barber-Greene Co.

Trucks—Motor—
General Motors Truck Co.
International Harvester Co. of America
White Co.

Truck Tanks (See Tanks)—

Truck Tires (See Tires—Truck)—

Tubes—Boiler, Charcoal Iron—
Reading Iron Co.

Tubes—Boiler Steel—
National Tube Co.

Tubing—
National Tube Co.
Reading Iron Co.
Superior Tube Co.

Tubing Catchers—
Dunn Mfg. Co.
Guiberson Corp.

Tubing Elevators (See Elevators, Casing and Tubing)—

Tubing Rings—
Oil Well Improvements Co.

Tubular Goods—
Oil Well Supply Co.
Republic Iron & Steel Co.
South Chester Tube Co.

Tubular Goods—Wrought Iron—
Reading Iron Co.
South Chester Tube Co.

Turbines for Lighting Equipment—
Lucey Mfg. Corp.
Pyle National Co.
Westinghouse Electric & Mfg. Co.

Turbine Generators (See Generators—Turbine)—

Turnbuckle Derricks (See Derricks)—

U

Underground Tanks (See Tanks)—

Underreamer Bit Steel—
Heppenstall Forge & Knife Co.

Underreamer Cutter Steel—
Heppenstall Forge & Knife Co.

Underreamers—
Bridgeport Machine Co.
Guiberson Corp.
Wilson Oil Tools Corp.

Unions—
Continental Supply Co.
Kelly & Jones Co.

V

Vacuum Pumps (See Pumps)—

Valuations—
American Appraisal Co.

Valve Iron—
Reading Steel Casting Co.

Valves—Blow-off—
Homestead Valve Co.

Valves—Brass and Bronze—
Chapman Valve Mfg. Co.
Lunkenheimer Co.
Reading Steel Casting Co.
Walworth Mfg. Co.

Valves—Check—
Gaso Pump & Burner Mfg. Co.

Valves—Drop Forged Steel—
Vogt, Henry, Machine Co.

Valves—Gate—High and Low Pressure—
Chapman Valve Mfg. Co.
Continental Supply Co.
Crane Co.
Darling Valve & Mfg. Co.
Edward Valve & Mfg. Co.
Homestead Valve Co.
Jarecki Mfg. Co.
Kennedy Valve Mfg. Co.
Kelly & Jones Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Pittsburgh Reinforced Brazing & Machine Co.
Powell, Wm., Co.

Valves—Steel—
Lunkenheimer Co.
Metric Metal Works
Pittsburgh Reinforced Brazing & Machine Co.
Powell, Wm., Co.
Reading Steel Casting Co.

Valves—Tank Vent—
Black Sivalls & Bryson
Oil Conservation Engineering Co.

Valves—Working Barrel—
Axelson Machine Co.
Hough, Charles N., Mfg. Co.
Northrup Equipment Co.

Varnishes—
Sherwin-Williams Co.

W

Wagons—Truss Wheel—
Athey Truss Wheel Co.

Walking Beams—Steel—
Moore, Lee C., & Co., Inc.

Water Gauge Cocks (See Cocks)—

Water Pumps (See Pumps)—

Water Softeners and Filters—
Graver Corp.

Water Well Screens (See Screens)

Wax—
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.

Weight Indicators—
Hughes Tool Co.

Welded Tanks (See Tanks)—

Welding Accessories—Electric—
Wilson Welder & Metals Co.

Welding and Cutting Apparatus, Etc.—
Oxweld Acetylene Co.

Welding Machines—Electric—
Wilson Welder & Metals Co.

Welding Supplies—
Oxweld Acetylene Co.

Welding Wire—
Frick-Reid Supply Co.
Oxweld Acetylene Co.
Page Fence & Wire Products Ass'n.
Wilson Welder & Metals Co.

Well Drilling and Fishing Tools (See Drilling and Fishing Tools)—

Well Drilling Equipment (See Drilling Equipment)—

Well Shooting—
Eastern Torpedo Co.
Zero Hour Torpedo Co.

Wheels—Steel, Automotive—
Budd Wheel Co.

Winches—
Braden Co.
Oil Conservation Engineering Co.

Wire Lines (See Cables—Steel)—

Wire Rope (See Rope—Wire)—

Wood Patterns and Models—
Gaso Pump & Burner Mfg. Co.

Working Barrels—
Axelson Machine Co.
Bradford Motor Works
Franklin Valveless Gas Engine Co.
Frick-Reid Supply Co.
Hough, Charles N., Mfg. Co.
McGregor Working Barrel Co.
Northrup Equipment Co.

Working Barrel Valves (See Valves—Working Barrel)—

Wrenches—Drop Forged—
Williams, J. H., Co.

Wrenches—Pipe—
Trimont Mfg. Co.
Walworth Mfg. Co.

Wrenches—Ratchet—
Dresser, S. R., Mfg. Co.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for June, 1925

Runs

	Month	Da. Av.
*Prairie P. L. Co.	3,768,000	125,600
Gulf P. L. Co.	767,686	25,256
Texas P. L. Co.	525,209	17,507
Magnolia Pet. Co.	1,027,317	34,244
Empire P. L. Co.	892,680	29,756
Cosden P. L. Co.	739,671	24,656
Sinclair P. L. Co.	1,434,000	47,800
*Other lines	8,070,000	269,000
Total June	17,214,563	573,819
Total May	17,849,221	575,780
Difference	634,658	1,961

Shipments

†Prairie Pipe Line Co.	4,716,115	157,204
Gulf Pipe Line Co.	1,080,299	36,010
Texas Pipe Line Co.	303,872	10,129
Magnolia Petroleum Co.	1,251,047	41,702
Empire Pipe Line Co.	1,012,089	33,736
Cosden Pipe Line Co.	525,209	17,507
†Sinclair Pipe Line Co.	2,921,411	97,380
*Other lines	8,100,000	279,000
Total June	19,910,042	663,668
Total May	20,862,070	672,970
Difference	952,028	8,302

Stocks

*Prairie Oil & Gas Co.	24,400,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line Co. & Gypsy Oil Co.	8,812,765
The Texas Co.	4,477,974
Magnolia Petroleum Co.	7,399,406
Empire P. L. Co.	3,384,882
Cosden Pipe Line Co.	2,540,400
*Sinclair Crude Oil Purchasing Co.	26,000,000
Carter Oil Co.	17,403,155
*Other lines	10,500,000
Total June	106,918,582
Total May	107,622,564
Difference	703,982

NOTE:—Stocks do not include approximately 7,200,000 bbls. of crude oil held in storage on private tank farms and leases.

*Estimated. †Prairie shipments include Texas crude oil and Sinclair shipments include Texas and Wyoming crude oil.

EASTERN PIPE LINES

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar., '25	Apr., '25
Nat. Transit	169,772.00	177,651.12
S. W. Pa. P. L.	83,742.71	84,300.24
Eureka P. L.	346,441.88	355,836.38
Buckeye P. L. (Macksburg)	285,108.00	292,166.83
Buckeye P. L. (Cleveland)	13,403.55	14,656.88
Buckeye P. L. (Lima, etc.)	132,914.79	137,350.06
Indiana P. L.	12,500.80	13,082.01
Cumberland P. L.	316,783.86	302,132.85
N. Y. Transit	20,196.49	19,371.04
Tidewater P. L.	142,533.93	142,993.61
Pure Oil	191,874.62	188,874.60
Emery P. L.	47,408.71	49,561.25
Indian Ref.	77,750.43	79,952.52
Paragon Dev.	17,370.31	26,324.40
Pittsburgh P. L.	8,440.60	7,594.34
Riggs Ref.	11,590.08	
Total	1,877,817.76	1,891,859.24
Daily average	60,574.77	63,061.64

Note—Indian Refining Co. also reported other receipts of 312,266.09 bbls. Paragon Refining Co. had other receipts of 155,498.15 bbls. Paragon Development Co. had other receipts of 3,462.81 bbls. Pittsburgh Pipe Line had other receipts of 2,803.90 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar., '25	Apr., '25
Nat. Transit	430,679.63	423,581.42
S. W. Pa. P. L.	372,161.19	437,125.73
Eureka P. L.	140,564.54	117,741.39
Buckeye P. L. (Macksburg)	94,087.14	102,149.16
Buckeye P. L. (Cleveland)	1,406.54	728.80
Buckeye P. L. (Lima, etc.)	791,406.13	808,739.39
Indiana P. L.	1,005,156.29	980,206.01
Cumberland P. L.	192,372.06	220,394.42
Crescent P. L.	8,257.28	
N. Y. Transit	551,009.09	426,407.69
Northern P. L.	136,435.28	135,630.48
Tidewater P. L.	161,370.53	112,947.57
Pure Oil	196,445.91	184,765.58
Emery P. L.	44,477.57	37,551.03
Paragon Ref.	68,165.00	137,995.17
Indian Ref.	366,073.95	375,050.50
Paragon Dev.	20,019.17	32,049.80
Pittsburgh P. L.	12,161.49	10,186.32
Total	4,792,229.06	4,542,870.52
Daily average	154,591.26	151,429.02

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of March and April were as follows:

	Mar., '25	Apr., '25
Nat. Transit	1,068,609.40	961,804.76
S. W. Pa. P. L.	746,167.41	676,118.02
Eureka P. L.	1,479,626.63	1,573,219.30
Buckeye P. L. (Macksburg)	243,240.44	259,204.25
Buckeye P. L. (Cleveland)	30,203.54	44,425.91
Buckeye P. L. (Lima, etc.)	3,158,207.59	3,162,495.97
Indiana P. L.	613,007.92	609,868.74
Cumberland P. L.	571,809.44	526,758.25
South P. L.	432,379.30	407,251.52
Crescent P. L.	49,923.81	50,030.81
N. Y. Trans.	808,123.81	907,411.60
North. P. L.	1,021,796.61	1,113,448.02
Pure Oil	446,021.83	448,443.27
Emery P. L.	14,313.36	26,295.16
Paragon Ref.	151,287.77	168,076.60
Indian Ref.	97,438.34	115,545.86
Paragon Dev.	9,158.55	6,749.30
Pitts. P. L.	4,602.85	4,934.41
Riggs Ref.	7,378.90	
Total	11,158,296.59	11,062,081.75
Decrease	34,627.31	96,214.84

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of March and April showing the gross stocks of the above fields:

	Mar., '25	Apr., '25
Penna	3,789,999.21	3,755,237.92
Lima	1,307,447.59	1,286,456.18
Kentucky	1,387,170.92	1,317,936.67
Mid-Cont.	4,621,707.74	4,633,867.79
Illinois	51,971.13	68,583.19
Total	11,158,296.59	11,062,081.75

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1922	1923	1924	1925
January	67,702	75,790	62,638	56,831
February	75,096	71,092	68,023	60,606
March	78,531	76,593	68,731	60,575
April	75,462	76,614	71,058	63,062
May	77,592	77,366	63,942	.....
June	76,192	77,593	65,230	.....
July	76,435	71,879	64,208	.....
August	79,387	76,910	59,942	.....
September	78,512	73,358	62,930	.....
October	77,209	76,256	64,976	.....
November	75,313	70,762	56,282	.....
December	73,351	69,271	55,814	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1922	1923	1924	1925
January	119,792	171,067	145,518	157,889
February	111,362	164,219	148,732	160,863
March	127,753	185,487	147,098	154,591
April	127,068	170,761	147,611	151,429
May	127,840	177,102	134,997	.....
June	137,628	173,598	142,019	.....
July	137,872	168,339	124,137	.....
August	153,275	142,766	123,120	.....
September	158,761	137,366	127,325	.....
October	165,345	134,597	123,170	.....
November	165,677	131,426	124,400	.....
December	172,861	139,909	151,392	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1923	1924	1925
January	14,040,567	12,907,202	11,353,276
February	14,028,437	11,844,068	11,192,924
March	13,878,146	10,906,752	11,158,297
April	13,737,575	10,823,743	11,062,082
May	13,816,622	11,326,309	.....
June	14,541,253	11,644,204	.....
July	14,645,584	12,062,361	.....
August	14,770,539	12,221,676	.....
September	14,802,444	12,206,336	.....
October	14,504,111	12,064,061	.....
November	14,157,736	12,268,530	.....
December	13,444,361	11,883,880	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1924—	Receipts	Shipm'ts	Stocks
April	3,311.84	3,066.78	13,001.54
May	3,036.50	5,328.21	10,699.53
June	3,188.21	407.01	13,481.13
July	3,067.74	3,334.29	13,214.53
August	2,901.36	6.21	16,109.73
September	2,794.58	5,775.89	13,128.42
October	2,342.40	1,880.80	14,590.32
November	2,700.13	482.89	12,427.56
December	3,120.34	2,659.13	12,888.77
1925—			
January	1,780.86	1,691.15	12,988.43
February	2,702.05	4,564.70	11,075.83
March	3,177.21	3,354.30	11,898.74
April	3,040.41	1,780.11	13,159.04

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, May 1	2,057,858.94
Runs from wells	694,147.69
Other receipts	692,205.34
Regular deliveries	541,137.58
Others deliveries	650,225.45

The amount of Illinois oil run by the Tidewater Pipe Line Co. in April was 21,717.45 bbls. and deliveries were 96,105.27. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries from the Illinois Field as follows:

1924—	Runs	Deliveries
April	514,356.43	339,544.18
May	751,080.44	510,414.41
June	725,060.87	528,402.33
July	759,640.84	552,386.50
August	720,457.72	519,335.70
September	714,875.36	535,762.80
October	741,767.42	543,863.77
November	650,147.63	521,459.21
December	640,919.25	595,943.31
1925—		
January	695,513.43	572,304.77
February	636,535.20	514,661.53
March	754,335.68	611,348.49
April	622,865.14	637,242.85

The Tidewater Pipe Co., Ltd., also delivered in April 283,593.23 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 492,046.07 bbls.

AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per week	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
March	24,826	32,418	297,388	111,885	146,552	613,069	.....	52,612	.....	.....	52,612	665,681
April	22,162	68,600	269,031	119,700	132,000	612,493	.....	17,731	.....	.....	17,731	630,224
May	57,806	35,000	292,873	86,685	92,127	564,491	.....	.....	.....	.....	.....	564,491
June	60,669	17,731	136,031	117,600	44,569	376,600	.....	70,238	.....	2,569	72,807	449,407

AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per week—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
March	109,639	112,224	523,806	64,358	215,649	1,604,676	174,776	390,418	27,776	54,649	647,619	2,252,295
April	130,900	60,200	418,369	68,831	144,900	823,200	145,131	321,300	84,931	50,869	602,231	1,425,431
May	195,776	54,873	440,097	112,903	135,261	938,910	219,030	254,030	59,773	41,818	574,651	1,513,561
June	157,962	84,700	497,000	101,738	238,938	1,080,338	225,638	196,938	63,000	24,033	509,609	1,589,947

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountain	Eastern Fields	Total
July:	Month	19,274,755	15,191,860	11,917,137	2,671,052	4,597,969	1,815,966	3,768,398	3,371,600	62,608,738
	Daily average	621,766	490,060	384,424	86,195	148,322	58,580	121,561	108,761	2,019,637
August:	Month	19,112,998	16,525,356	11,808,876	2,717,398	4,359,241	1,702,525	3,749,375	3,286,000	63,261,769
	Daily average	616,548	533,076	380,931	87,658	140,621	54,920	120,948	106,000	2,040,702
September:	Month	18,308,233	16,299,030	11,089,492	2,638,900	4,029,535	1,795,575	3,330,007	3,150,000	60,640,772
	Daily average	610,274	543,301	369,650	87,963	134,318	59,853	111,000	101,936	2,021,359
October:	Month	18,696,559	16,189,898	10,942,005	2,768,455	3,983,696	1,774,707	3,058,268	3,395,000	60,808,588
	Daily average	603,115	522,255	353,000	89,305	128,506	57,249	98,654	109,516	1,961,567
November:	Month	17,767,034	15,955,620	10,731,264	2,597,460	3,461,050	1,965,921	2,788,110	2,941,000	58,207,459
	Daily average	592,234	531,854	357,709	86,582	115,035	65,531	92,937	98,033	1,940,248
December:	Month	18,795,126	16,031,185	11,264,915	2,537,443	3,380,511	1,870,876	2,302,888	3,000,850	59,183,794
	Daily average	606,294	517,135	363,384	81,853	109,049	60,351	74,287	96,402	1,909,155
January:	Month	18,743,288	15,462,800	13,790,195	2,520,858	3,278,484	1,774,072	2,627,676	3,065,992	61,263,366
	Daily average	604,622	498,800	444,845	81,318	105,758	57,228	84,760	98,903	1,976,238
February:	Month	16,869,833	13,905,780	11,361,896	2,466,660	2,886,296	1,547,461	2,666,335	2,905,000	54,609,216
	Daily average	602,494	496,635	405,782	88,095	103,082	55,265	95,226	103,750	1,950,333
March:	Month	18,626,009	14,403,716	13,047,068	2,824,534	3,564,472	1,807,517	2,734,235	3,282,000	60,289,552
	Daily average	600,839	464,636	420,886	91,114	114,983	58,307	88,201	105,871	1,944,502
April:	Month	17,959,653	14,055,450	12,683,520	2,971,110	7,560,240	1,695,780	2,744,691	3,157,000	62,927,444
	Daily average	598,655	468,515	422,784	99,037	252,008	56,526	91,490	107,150	2,026,692
May:	Month	18,830,328	14,486,579	13,155,005	3,493,266	11,813,996	1,887,729	2,799,542	3,187,300	69,633,746
	Daily average	607,107	467,309	424,678	112,686	381,097	60,572	90,308	102,171	2,246,250
June:	Month	19,288,135	13,832,970	12,583,740	3,175,440	9,300,372	1,900,506	2,754,498	3,112,500	65,849,161
	Daily average	642,938	461,099	419,458	105,848	306,679	63,350	91,816	103,783	2,194,972
	Total 12 months	223,261,951	182,340,244	144,385,113	33,382,577	62,115,863	21,538,590	35,324,022	37,835,242	739,183,604
	Daily average	608,937	499,562	395,576	91,185	170,180	59,010	96,778	103,658	2,025,161

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